A STUDY TO ASSESS THE EFFECT OF STRUCTURED TEACHING PROGRAMME ON KNOWLEDGE REGARDING OCCUPATIONAL SAFETY MEASURES AMONG SWEEPERS WORKING IN SELECTED PUBLIC HEALTH SETTINGS, BENGALURU URBAN

By

ULPHIA SYAFIA

In partial fulfillment
of the requirement for the degree of
MASTER OF SCIENCE IN NURSING
In
COMMUNITY HEALTH NURSING
Under the guidance of

Prof. SHANI JOHN SEQUEIRA

HOD, Department of Community Health Nursing

THE OXFORD COLLEGE OF NURSING

No.32, 1st Cross, Begur road, Hongasandra, Bengaluru - 560068

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EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME ON KNOWLEDGE REGARDING OCCUPATIONAL SAFETY MEASURES AMONG NURSES WORKING IN SELECTED PUBLIC HEALTH SETTINGS, BENGALURU URBAN

By

H.P. HEMAVATHY

Dissertation submitted to the
Rajiv Gandhi University of Health Sciences, Bangalore, Karnataka

In partial fulfillment
of the requirement for the degree of
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BANGALORE, KARNATAKA

DECLARATION BY THE CANDIDATE

I hereby declare that this dissertation entitled **"Effectiveness of Structured Teaching Programme on knowledge regarding Occupational safety measures among Nurses working in selected public health settings of Bengaluru urban"** is a bonafide and genuine research work carried out by me under the guidance of Prof. Shani John Sequeira, HOD, Department of Community Health Nursing, The Oxford college of Nursing, No. 6/9, 1st Cross, Begur road, Hongasandra, Bengaluru – 560 068.

Date: 24/07/2010

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ACKNOWLEDGEMENT

Gratitude *is a memory of the heart, which can never be expressed in words man's effort always crowned by* ***God****'s grace and blessings.*

My deepest reverence and gratitude to, almighty ***God*** *for showering his choicest blessing on me and making all things possible. Any accomplishment requires the effort of many people. I feel it is a great privilege to express my heartfelt thanks and gratitude to all who directly or indirectly have given valuable guidance and timely suggestion throughout this dissertation work.*

I owe my debt of gratitude to The ***Government of Karnataka*** *for deputing me for higher studies.*

My sincere gratitude is also due to ***Shri. Narasaraju Garu, Honorable Chairman, and Sri. Narasimha Raju, Executive Director of The Oxford Group of Educational Institutions, Bengaluru****, for their encouragement, support and providing us all the state of the art facilities to pursue my studies at the esteemed institution.*

I express my thanks and gratitude to ***Dr. Kasthuri .G, Principal, The Oxford College of Nursing,*** *for her constant encouragement and support provided for the conduction of the study.*

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Quality always makes difference through its generosity, richness, kindness and intelligence. These quality aspects has been incorporated and accomplished in this study through the effective, enriched, constant guidance and support from, ***Mrs. Shani John Sequeira, HOD, Dept of Community Health Nursing, The Oxford College of Nursing, Bengaluru****. I express my immense gratitude for his valuable guidance and making this effort success.*

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Place: Bengaluru

Signature of the candidate

H.P. HEMAVATHY

LIST OF ABBREVATIONS USED

ANA	**: American Nurses Association.**
AIDS	**: Acquired Immuno Deficiency Syndrome.**
ANM	**: Auxiliary Nurse Midwife.**
CDC	**: Centers for disease control.**
CHC	**: Community health center**
CNE	**: Continuing nursing education**
DHO	**: District Health Officer**
Fig	**: Figure**
GNM	**: General nursing and midwifery**
H_1, H_2	**: Hypothesis 1 and 2**
HB	**: Hepatitis B**
HCV	**: Hepatitis C virus**
HBV	**: Hepatitis B virus**
HCWS	**: Health care workers**
HOD	**: Head of the deportment**
HIV	**: Human immuno deficiency virus**
I.M	**: Intramuscular**
I.V	**: Intravenous**
LBP	**: Low back pain**
LPN	**: Licensed practical nurse**
NP	**: Nurse practitioner**
NSAP	**: Neck shoulder and arm pain**
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NSWHN	**: National survey of the work and health of nurses**
OT	**: Operation Theater**
OSM	**: Occupational safety measures**
OSHA	**: Occupational safety and health administration**
PHC	**: Primary health center**
PEP	**: Post exposure prophylaxis**
PC. Bsc. Nsg	**: Post Basic Science in Nursing**
RN	**: Registered nurse**
SD	**: Standard deviation**
W.H.O	**: World health organization**

ABSTRACT

BACKGROUND

As civilization advanced, virtually all types of occupations have had health hazards. In some jobs, the associated health problems are more dangerous than in others. Some occupational hazards are common to many vocations, while others are more peculiar to certain trades. In the nursing profession, the types of health hazards encountered are varied.

Occupational health problems among nurses may be categorized as physical hazards and ergonomics, chemical hazards, biological hazards, psychosocial hazards and legal safeguard. Nurses have been selected to be the focus of attention in this study because they constitute the largest category of health care workers in most countries. In addition, they have a critical role in the health care delivery system. They generally serve as the primary interface with patients. It would be fair to state that the health care delivery system would cease to function in the absence of nurses. Addressing to the occupational health hazards is of utmost important for the well being of nurses. A safe work environment is essential to maintain standard of care. In this study, an attempt is made to assess the knowledge of nurses regarding Occupational safety measures and to evaluate the effectiveness of structured teaching programme on Occupational safety measures.

OBJECTIVES

1. To assess the existing knowledge of nurses regarding Occupational safety measures in terms of pre test scores.

ABSTRACT

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OBJECTIVES

1. To assess the existing knowledge of nurses regarding Occupational safety measures in terms of pre test scores.

2. To assess the knowledge of nurses regarding Occupational safety measures after conducting structured teaching programme in terms of post test scores.
3. To determine the effectiveness of structured teaching programme by comparing the pre and post test knowledge scores.
4. To determine the association between the pre test knowledge scores with selected demographic variables.

HYPOTHESES

H_1: There will be significant difference between the pre tests and post test knowledge scores of Nurses regarding occupational safety measures.

H_2 : There will be significant association between the pre test knowledge scores with selected demographic variables.

METHODS

An evaluative approach with one group pretest-post test design was adapted for the study. The structured knowledge questionnaire on occupational hazards and safety measures was used. The main study was conducted at public health settings of Bengaluru urban by using non-probability convenient sampling technique 70 nurses were selected.

RESULTS

The findings of the present study revealed that most of the nurses 40.0% were in the age group of 20 - 30 years and all nurses were females. More number of nurses 60% had Diploma in Nursing qualification, while 35.7% were Auxiliary Nurses Midwives. 84.3% nurses were working in PHC's. The findings also revealed that 41.4% nurses had clinical experience between 1 – 5 years, 18.6% nurses had 6 – 10 years and few nurses 14.3% had 26 – 30 years of clinical experience.

The study found that nurses in public health settings had low level of knowledge regarding occupational hazards, safety measures and self care to prevent effects of hazards with overall pretest knowledge level being 17.72 and the overall posttest knowledge of occupational safety measures of the nurses was 31.70 and was found to be statistically significant at the level of $p<0.05$. After the planned teaching programme the knowledge levels of nurses improved significantly. There was no significant association between the religion, monthly income, marital status and source of information with pre test knowledge level. However, variables such as age, professional qualification, area of working, years of experience had significant association with pre test knowledge levels.

CONCLUSION

The structured teaching programme on knowledge of the nurses regarding occupational safety measures was effective in improving the knowledge of nurses after conducting the structured teaching programme.

KEY WORDS

Occupational Safety Measures, Nurses, Public health settings, Structured Teaching Programme, Knowledge, Pre test, Post test.

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1. Introduction

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1. INTRODUCTION

"We don't want someone to motivate us, but we want a motivational climate where we can find enjoyment and growth in our work"

- Anonymous

The component of nursing is vital to the health care industry, without this significant component of health care services millennium development goals cannot be achieved. The International Council of Nurses (ICN) has brought fourth global initiatives within nursing profession to enhance their work environment and ensure occupational safety programme. The initiatives by the ICN have emphasized the need for variety of health and safety interventions to protect working force from hazards including physical and ergonomics, chemical, biological, psychological, and legal safeguard. They recommend several measures that require the structures for management commitment, employee participation, written occupational health and safety programme and a strong health and safety programme committee. This structure is intended to serve as a frame work for six major functions namely worksite hazard assessment, hazard prevention and control, employee training and education, record keeping, programme review and evaluation, and continuous process improvement.[1]

The International Labor Organization (ILO) acknowledged the need for safe and healthy workplaces for nurses 30 years ago. International, national and local organizations and many government entities have implemented policies and regulations to protect nurses.[1] In discharging their duties nurses encounter a variety of occupational health problems which may be categorized into physical hazards,

chemical hazards, biological hazard, ergonomics and psychosocial hazard and ergonomics.[2]

The nurse is exposed practically to all hazards of a health care institution, these include communicable diseases due to her contact with the patients, exposure to various dangerous chemicals, in particular medications, cleaning, disinfecting and sterilizing agents, anesthetic gases, radiations etc. Injuries may be caused by sharp objects (needles, blades, etc), hot surfaces or flames, faulty electric equipment, etc. An important hazard is that of musculoskeletal problems and back pains resulting from the handling of heavy patients. Shift work, night work, contact with terminal cases and their families, and a feeling of personal responsibility and involvement cause stresses and burnout.[3]

International council of nurses promotes safe working environments to strengthen nursing practice and enhance the quality of care provided. The ICN belief that governments, communities, national nursing associations, health care employees and nurses must work together to develop a strong, consistent and comprehensive culture of health and safety in the public health care settings. They must take proper care of their own health and safety at work.[4]

The national campaign for nurses in England termed as "help yourself to help" by the nursing times is aimed at improving nurses health, safety and well being by supporting nurses and employers to make positive changes, improve polices and facilities and share best practice. These efforts by the professional group is aimed ultimately at reducing level of sickness absence among nursing work force, support nurses by offering tips and advice on boosting their health and wellbeing at work. raise awareness of risks to nurses health, well being and safety and demand

improvements from employers and the government. Focuses on facilitating the sharing of existing best practice, staff initiatives and nurses individual ideas and experiences on improving health and well being of nurse.[5]

In India, the report of high power committee on nursing and nursing profession (1989), recommended that the strength of nursing staff in both hospitals and the community settings have to be increased in order to provide nursing service in its modest standard. The nursing personnel suffer poor status, and unfavorable working conditions such as long working hours, inadequate work place (duty station), lack of supplies and equipment, forced performance of non-nursing duties. The committee had recommended several measures to implement better working conditions of the nurses across setting uniformly in India.[6]

A wind shield survey or a casual visit to any government or municipal hospital provides a clear picture of the risks faced by the nurses in the public health settings. There is a lack of basic protective barriers like gloves and masks, and absolutely minimum training on universal precautions. The practice of occupational health and safety measures are not strictly adhered to by nursing personnel.[7]

As evidenced by various studies positive work environment has been equated with quality of patient care. Based on the observation by the nurse researchers it is highly emphasized that there is an urgent need for enhancing safe work place condition, respecting the physical safety of nurses and provision of positive work place to nurses engaged in high quality service delivery recognizing the high rate of burnout and enhancing nurses ability to care for patient as well as them self has been strongly advocated.[8]

NEED FOR THE STUDY

Nursing is a powerful organization with a strong education, research and communication. Nurses are also the category of health personnel, who gives quality care to patients and also responsible for providing clean and safe environment to patients as well as them self .As we recall the proverbial statement, "The eyes will not see what the mind does not know,'' the nurses need to have knowledge regarding occupational safety measure to safeguard them self and in order to do this they must know what are the hazards and the methods they can employ to protect their valuable workforce.[9]

Nurses are essential to the health of the world's population they themselves are often put in physical hazards. In the world nurses are exposed in working settings from different types of health and safety hazards, these hazards are physical, chemical, biological, ergonomics, legal and psychosocial hazards. Occupational health departments have invested considerable resources in the prevention of these injuries, which can be very distressing to the affected individuals, resources constraint that may hinder compliance with universal precautions such as lack of appropriate facilities, shortage of equipment and materials, inadequate staffing and absence of sustainable in-service educator programs. Further research is required to evaluate nurse's compliance with universal precautions in developing countries. This would enable exploration of nurse's actions regarding compliance with universal precautions.[4]

Physical agents are forms of energy that can harm the body when exposure takes place. They include excessive noise and vibration. Physical and environmental hazards commonly found in health care settings include slippery floors, electrical

hazards, noise, poor lighting and inadequate ventilation. The other form of agents include hot and cold which can affect the body's cells, humidity, light noise, ionizing radiation (x-ray, radioactive isotope like cobalt 60, phosphorus 32) that can cause leukemia, cancer, malformation, sterility and even death.[10]

The most common reported injuries are strains, sprains, lacerations, contusions, scratches and abrasions, musculoskeletal, back injury. In each year more than 1 million workers suffer back injury in this one of every 5 are reported work place injuries. According to one survey nurses lost 750,000 working days a year as a result of back pain, which is twice the national average rate.[11]

According to the American nurses 2000 there are strong data demonstrating the problem of overexertion injuries in hospitals, nursing homes and home care settings over the last decade. The 67% were caused by sprains and strains; overexertion injuries to the back or trunk from lifting patients according to this the more number of nurses suffer from back injury and limb injuries. The ANA and health initiate new lifting initiative. "Handle with care". The aim is to reducing the back and limb injuries in nurses. Health care workers are at extremely high risk of musculoskeletal injuries and back injuries. Nurses were found to be at particular risk of back injury during patient transfers, which require sudden movements in no-neutral postures. Long work hours were related to incident musculoskeletal injuries in nurses.[11]

The centers for disease control (CDC) 2007 estimates that in each year about 600,000 to one million needle sticks injuries occur of which only half are reported. The reason for non- reporting of injuries at work was fear of disciplinary action. Harassment by supervisors and co-workers, Denial of opportunities for promotion and

termination of employment. It is important for nurses be able to report injuries and illness in order to ensure a safe work place and also for organization to adapt specific policies to manage them and prevent.[12] There are thousands of chemicals and other toxic substances to which nurses are exposed in practice. A number of studies have supported the deleterious effects of exposure to antineoplastic drugs, especially an increased risk of spontaneous abortions among health care workers. Cytotoxicity, genotoxicity, terotogenicity, and carcinogenicity are associated with such exposures.[13]

ANA estimates nurses are risk for about 20 other infections and blood borne diseases including HIV, Hepatitis c, Syphilis Malaria tuberculosis ANA estimates that needle stick injuries only about 1000 health care workers actually contract an infection.[11]

The major concern following occupational exposures of the health care workers is the possible transmission of blood borne pathogens, especially hepatitis B virus(HBV), hepatitis C virus(HCV) and human immunodeficiency virus (HIV), percutaneous injuries are still common among health care workers. The results support the importance of the use of universal precautions and safety enhanced devices, introducing effective training and efficient vaccination programs against HBV in the clinical setting.[14]

Organizational stressors cause specific reactions in the body that can leads to potential health effects. A person may become frustrated at work due to work overload or under load, role uncertainty and role conflict, responsibility for others job insecurity and job dissatisfaction. Extreme environmental temperature it leads to stress in the worker, work place violence causes stress, aggression it leads to psychosocial hazards in the worker. Excessive stress associated with heart diseases.

high blood pressure, digestive problem skin rashes, insomnia, nervous, emotional disorders, and substance abuses, interpersonal and family dysfunction.[15]

The National Institute for occupational safety and Health estimates that, 2 million workers are attached annually in the workplace and 6 million are threatened including 8% of all rapes, 7% of robberies, 16% of all assaults and 10% of all work place violence involve handguns. The causative factors of work place violence are multivariate the nurses are in dangers in all practice settings that resulting in job insecurity, disloyalty, apathy, stress, tension and feelings of helplessness and devaluation.[4]

Occupational health nursing is a specialized nursing practice area and effect a comprehensive integrated program for improving working life of nurses is inconspicuous by its presence in most of the countries. Recent data have suggested that there is high turnover and even increasing no of nurses are leaving nursing. Review of nursing literature revealed that there are innumerable fragmented efforts in studying singular aspects of occupational hazards among nurses often limited to specific area of work in India. There is a paucity of studies that focus on occupational safety measures and occupational hazards among nurses themselves in a comprehensive manner. Based on these facts, the investigator felt the need for enhancing integrated awareness among nurses regarding occupational safety measures. The lack of workplace health and safety programmes in the health care environment can no longer be ignored in the face of mounting health care needs and a critical shortage of nurses in active practice in our country Education regarding occupational safety measures among nurses will help them to gain knowledge and update clinical practices.

2. Objectives

2. Objectives

2. OBJECTIVES

This chapter deals with the statement of the problem, objectives of the study, operational definitions, hypothesis made in the study, limitations of the study and conceptual framework. Objectives are the guiding forces for a researcher through out his study. Explicit descriptions of objectives are essential to come out with the meaningful research. The statement of the problem and the objectives for the current study are as follows:

STATEMENT OF THE PROBLEM

A study to assess the effectiveness of structured teaching programme on knowledge regarding occupational safety measures among nurses working in selected public health settings of Bengaluru Urban.

OBJECTIVES OF THE STUDY

1. To assess the existing knowledge of nurses regarding Occupational safety measures in terms of pre test scores.
2. To assess the knowledge of nurses regarding Occupational safety measures after conducting structured teaching programme in terms of post test scores.
3. To determine the effectiveness of structured teaching programme by comparing the pre and post test knowledge scores.
4. To determine the association between the pre test knowledge scores with selected demographic variables.

RESEARCH HYPOTHESES

This study attempts to examine the following hypotheses:

H_1 There will be significant difference between the pre tests and post test knowledge scores of Nurses regarding occupational safety measures.

H_2 There will be significant association between the pre test knowledge scores with selected demographic variables.

RESEARCH VARIABLES

INDEPENDENT VARIABLES

Structured teaching programme regarding occupational safety measures.

DEPENDENT VARIABLES

Knowledge of nurses regarding occupational safety measures.

OPERATIONAL DEFINITIONS

NURSES: refers to those personnel who have undergone basic nursing course as prescribed by the Indian Nursing Council and are licensed to provide direct care to the clients and currently being employed in public health care settings.

KNOWLEDGE: refers to correct response by the Nurses regarding occupational safety measures assessed through the structured Knowledge questionnaire.

STRUCTURED TEACHING PROGRAMME: refers to the systematically developed instructional method and visual aids designed to provide information to nurses regarding occupational safety measures.

OCCUPATIONAL SAFETY MEASURES: refers to various precautions adopted by nurses against physical, biological, chemical, ergonomics and psychological hazards. These measures include using universal precautions, body mechanics, proper handling of equipments, chemicals, legal protection and safe work environment.

EFFECTIVENESS: Refers to gain in knowledge score of nurses regarding occupational safety measures after undergoing a structured teaching programme.

PUBLIC HEALTH SETTINGS: Refers to selected Government health care agencies such as Primary health unit, Primary health centre, Maternity home, Community health centre, and First referral unit (General hospitals) providing health services in Bengaluru urban.

ASSUMPTIONS

1. Nurses may have some knowledge regarding occupational safety measures.
2. Nurses may have interest to learn more about occupational safety measures.
3. The Structured-teaching programme will improve in nurse's knowledge regarding occupational safety measures.

DELIMITATION

1. The study is delimited to the knowledge of nurses regarding occupational safety measures in selected public health settings of Bengaluru urban.

CONCEPTUAL FRAMEWORK

The conceptual framework deals with abstractions that are assembled by virtue of their relevance to a common theme (Polit and Hungler 1999).[16] Conceptual framework provides clear description of variables suggesting ways or methods to conduct the study and guiding the interpretation, evaluation and integration of significant findings. This

study is aimed at determining the effect of primary level of prevention i.e. specific protection to improve the knowledge of nurses in public health settings through structured teaching programme on various occupational safety measures.

Based on the evidence from research studies on occupational health settings, Betty Neuman's health care system model[17] in the present study. Neuman considered the client/group/community (George 1995) as a central core open system, which is in continuous interaction with the environment. The core represents group of nurses in public health settings viewed as an open system and are in constant interaction with their immediate work environment, to achieve optimal system stability. The basic structure of the central core is made up of those basic survival factors common to the specific group. The variables of interest in the basic structure of nurses in public health settings includes their age, sex, religion, education, experience, area of work and knowledge regarding various aspects of occupational safety measures namely physical, ergonomics, chemical, biological, psychosocial and legal aspects.

Around the basic structure are the concentric circles which represent protective mechanisms called as flexible line of defence, normal line of defence and line of resistance. Nursing interventions are aimed at strengthening these protective lines such as flexible line of defence, normal line of defence, and lines of resistance and Neuman discusses three levels of prevention such as primary, secondary and tertiary. The present study attempts to implement the structured teaching programme on occupational safety measures among nurses and thereby strengthening the flexible line of defence within the primary level of prevention.

The '***flexible line of defence'*** protects the nurses in public health settings from occupational health hazards/stressors. The stimuli that produce tension and system instability are physical, ergonomic, chemical, biological, psychosocial hazards and legal safeguard which are termed as stressors. The nurses strengthen their flexible line of defence by adopting primary preventive measures such as health promotion and specific protection. Health promotion includes health information, healthy life style, balanced work and personal life, wellness practice e.g. Yoga and meditation. The specific protection consists of knowledge on various aspects of occupational safety measures in an integral manner. The nurses deal with many stressors in their work environment. The nurses adopt primary preventive measures to protect the flexible line of defence from stressors to facilitate optimal level of wellness in the system which is dynamic in nature.

When the flexible line of defence is weakened the stressors invade the ***'normal line of defence'*** which the system responds to the stressors in order to stabilize this the secondary prevention strategies are adopted such as occupational health risk surveillance, periodic screening, appropriate treatment and remedial measures. Thereby preventing the stressors from invading the lines of resistance.

The '***lines of resistance'*** protects the basic structure of the system. The lines of resistance are invaded by the environmental stressors if both flexible lines of defence and normal line of defence are weak or not stabilized and the system suffers from occupational illness and injuries such as needle stick injuries, musculo-skeletal injuries, chemical injuries, electrical injuries, blood borne infections, viral infections, allergies, stress, job insecurity, violence, assault, legal insecurity etc. In order to regain system stability / equilibrium and wellness revitalize the system defence, rehabilitation, re-

education, compensation, lobbying and advocacy may be adopted. Hence, the study does not address intervention in the secondary and tertiary levels of prevention.

The goal of primary level of intervention to nurses in public health settings is to strengthen flexible line of defence and prevent potential hazards, to protect the basic structure by strengthening the flexible line of defence.

Evaluation of the specific protection measures through the structured teaching programme and knowledge of occupational safety measures will provide feedback for further interventions to improve the occupational health among nurses. This will further acts as a impetus to secondary and tertiary level of prevention and thus facilitates creation of a positive work environment for nurses.

SUMMARY

This chapter dealt with the statement of the problem and objectives of the study were enlisted. Operational definitions were defined, hypothesis and assumptions were described. Delimitations of the study were set. The conceptual frame work adopted for the study was Bettty Neuman's health care systems model which was also briefly described.

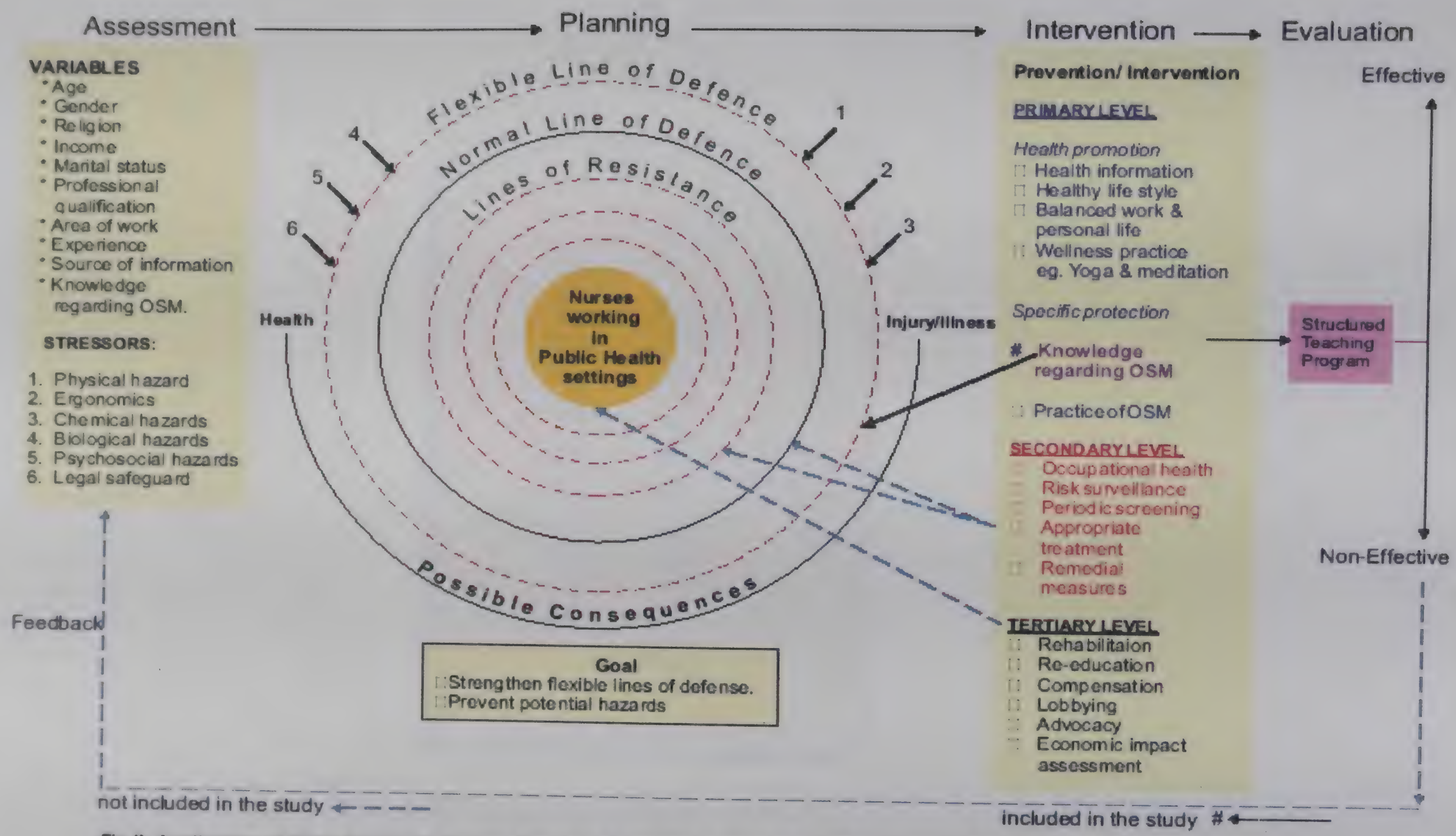


Fig II: Application of Betty Newman's System Model for Improving Knowledge of Occupational Safety Measures among nurses

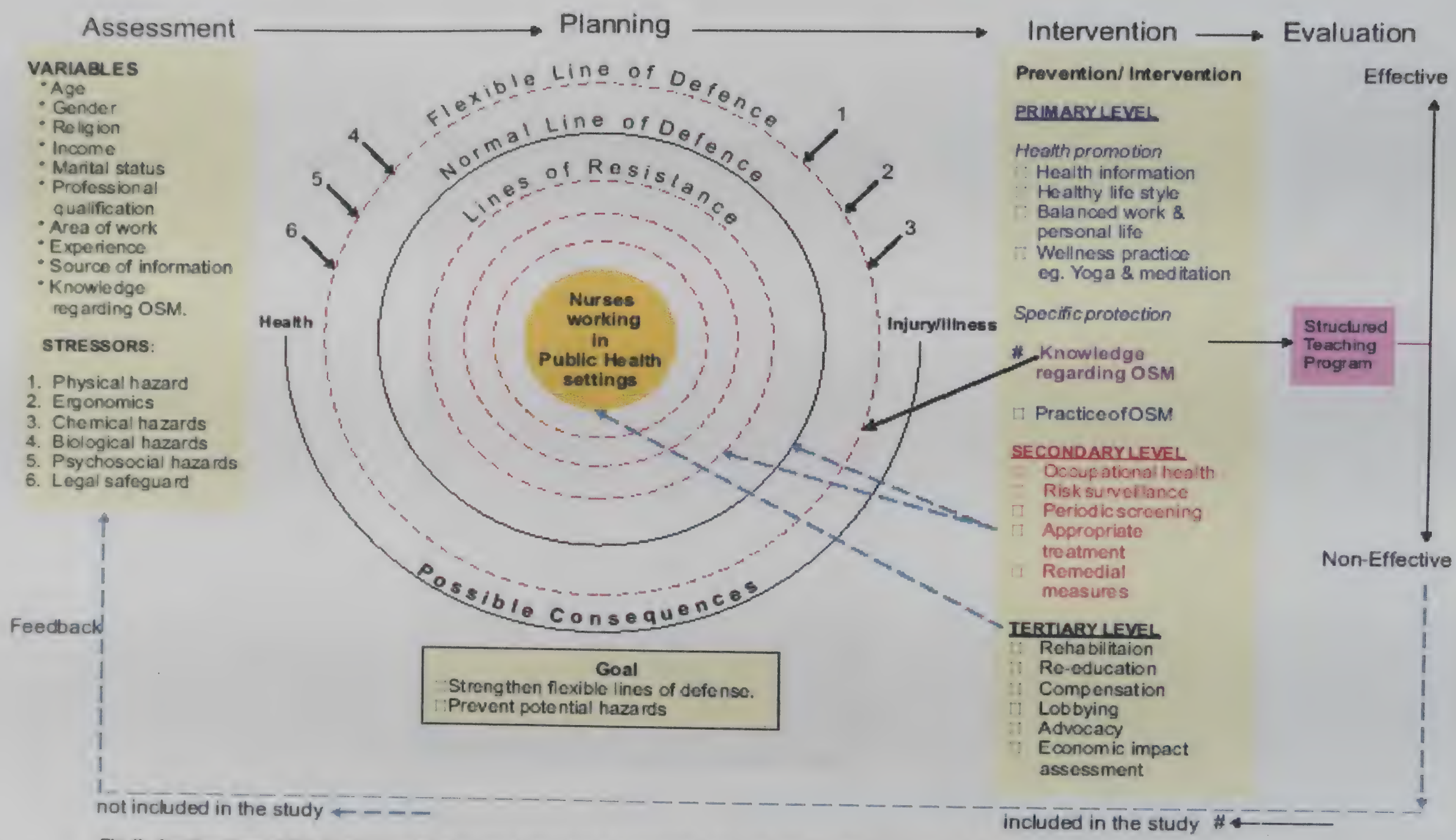


Fig II: Application of Betty Newman's System Model for Improving Knowledge of Occupational Safety Measures among nurses

3. Review of Literature

3. Review of Literature

3. REVIEW OF LITERATURE

Review of literature is a key step in research process and works as summary of current knowledge about particular problem. Review of literature is a broad, comprehensive, in depth, systematic and critical review of scholarly publication, unpublished proved materials.

The relevant literature of the present study has been collected, organized and presented under the following sections:

Section 1: Studies related to Physical hazards and ergonomic in nurses work environment

Section 2: Studies related to Chemical hazards in nurses work environment

Section 3: Studies related to Biological hazards in nurses work environment

Section 4: Studies related to psychosocial hazards in nurses work environment

Section 5: Studies related to Legal safeguards for nurses in nurses work environment

Section 6: Studies related to effectiveness of structured teaching programme on occupational safety measures among nurses

Section 1: Studies related to Physical and ergonomic hazards.

A study was conducted on Risk factors for work related violence in a health care organization. There were 1751 current and former employees responded with the long survey response rate were 42% and 380 responded with short survey total response rate is 51%. It shows that physical and non-physical violence to patient care assistants and decreased for clinical workers that are 2.5 to 15%. Increased physical violence was identified for the nurses. The findings of the study was workers who had

more contact with patients they had increased risk of physical violence and also non-physical violence.[18]

A study conducted among 218 nurses regarding factors related to on-job abuse of nurses by patients. In this study shows that male nurses are 55% high percentages and female nurses are 46% for reporting abuse like physical, assault and emotional abuse. Health care providers are particularly high risk of work violence, and nurses are most at risk most of the studies evidenced that on-job abuse can result in a variety of negative outcomes among nurses, including anger, fear, depression, anxiety, sleep disruption, increased sick leave, symptoms of post-traumatic stress disorder, and job dissatisfaction. The study reviewed that those who have more year of experience they have less physical and emotional abuse.[19]

A study was conducted in Iran, to identify the prevalence and risk factors for low back pain (LBP) among 1226 nursing personnel and to analyze how individual and occupational characteristics contribute to the risk of low back pain. The researchers found that prevalence of low back pain in nurses was over 50%. Lifting was the most common mechanism for low back pain (30.4%). Prolonged standing and rest were found to be the significant aggravating and relieving factors. The researchers concluded that low back pain among nurses appears to be high and therefore more resources should be allocated to prevent such an injury occurring in the nursing profession.[20]

A study was conducted to investigate the prevalence of NSAP as well as LBP among nurses, and to examine the association of severity of workloads in actual tasks, self estimated risk factors for fatigue, and musculoskeletal pain in the previous month with NSAP and LBP. The researchers found that the prevalence of NSAP and LBP in

the previous month of the study were 54.7%, 42.8%, 31.3% and 18.6% respectively. The researchers concluded that musculoskeletal pain among hospital nurses may have associations with severity of workloads in actual tasks and items related to work postures, work control, and work organization.[21]

A laboratory study was conducted to evaluate five different manual patient transferring techniques like two-person manual lifting, rocking and pulling the patient using a gait belt with two persons, walking belt with one and two persons and also three different mechanical hoists for transferring patients from wheelchair to shower chair. However most of the nurse believed that redesign and the one-person walking belt would not work on those patients who cannot bear weight and those who are heavy. Two out of three hoists were perceived by the nurses to be more stressful than one and two-person walking belts. A study revealed that two person walking belt was most preferred method. Researcher recommended that two person walking belts, using a gentle rocking motion, pulling technique and ambulift to transferring patients from wheel chair to shower chair and shower chair to wheelchair. It will help to nurses from prevention of musculoskeletal injuries.[22]

A study to describe the distribution of musculoskeletal symptoms in relation to the perceived work related physical demands was conducted among 120 nursing staff in Turkey, The study data revealed that 90% of all nurses reported at least one musculoskeletal complaint, in the past 6months and higher prevalence was low back pain reported by 69% of nurses, neck pain was reported by 46% and 54% reported shoulder complaints, chronic low back , neck and shoulder complaints were experienced by 41%,25% and 33% of nurses respectively. Chronic complaints had a

correlation with nurse's work setting of surgery, obstetric and gynecology deportments had chronic complaints.[23]

An epidemiological study on LBP and occupational risk factors among 947 clinical nurses in European countries and the United States, LBP has been reported to be one of the most common and costly health problems among clinical nurses. The researcher concluded that significant aggravating 57.6% and relieving factors are 59.2% .Absence from the work because of LBP in the month 33.7% reported. It shows that LBP in nursing personnel appear to be high for this more resources should be allocated to prevent such an injury in the nursing profession.[24]

An explorative study was conducted to identify the usage of body mechanics in clinical setting and the occurrence of LBP among 56 nurses who works in different deportments in the hospital Bolu Turkey. According to the observations, majority of the nurses used body mechanics correctly while sitting 53.6% and highest number of nurses 79.4% were uses body mechanics correctly while pulling or pushing. A result of the study shows that more of nurses 87.5% experienced low back pain because the nurse's do not use body mechanics correctly.[25]

A study assessed the knowledge, attitude and practices among health care workers on needle stick injuries. The results showed that 4% and 61% of health care workers, respectively, were unaware of the fact that hepatitis B and hepatitis C can be transmitted by needle stick injuries. Among 74% with history of needle stick injuries, only 21% reported the injuries to the hospital authority. Only 66% were aware of universal precaution guidelines. The researchers concluded that a standing order procedure should be formulated regarding needle stick injuries in all the health institutions. The researchers suggested aimed to raise the knowledge level among

nurses regarding hazards, preventive measures and post exposure prophylaxis to needle stick injuries.[26]

A study assessed the knowledge, attitude and practices among 104 health care workers on needle stick injuries, showed that 74% of them had a history of needle stick injuries and 93% non reporting of the NSI incident due to lack of awareness regarding post-exposure prophylaxis, 21% to 30% of health care workers unaware that the risk of AIDS and hepatitis C can be transmission through NSI and 29% nurses having impression that needle should be recapped after use. Only 27% of workers are practicing universal precaution during procedure and 61% aware of universal precaution guidelines, 50% health care workers had adequate knowledge of new needles devices and the safety features.[27]

An exploratory survey was conducted among 490 nurses on needle stick and sharp safety in a hospital at Virginia. The study revealed that 24% of respondent reported one or more sharp injury 50% nurse's sustained injury during administration of I.V or I.M injection and only 15% received post exposure prophylaxis.[28]

A study was conducted by the researchers to assess the needle-stick injuries and their attitudes to reporting of incidence in Lister Hospital, Stevenage .Confidential questionnaire was posted to 300 health care professionals in clinical work (175 nurses 125 doctors). The result showed that 57% of respondent sustained one or more needle stick injury in their careers, 38% in the past year. Of these individuals, 80 had reported all of them had NSI in these 22 doctors, 58 nurses. According to this study the nurses are more likely to injury. The nurses are failure to report early, the main reason for non-reporting was a low perceived risk of transmission of infection. But 94% acknowledged the benefits of early reporting.[29]

Section 2: Studies related to Chemical hazards

A study was conducted to assess the knowledge, attitude and safe behavior of nurses handling cytotoxic anticancer drugs in Ege University Hospital, Turkey. The researchers found that the level of knowledge of the nurses concerning antineoplastic was not satisfactory. Findings for nurse's safety behavior and usage of recommended health safety measures regarding cytotoxic drugs, nurses did not comply with them fully. The researcher suggested that in service training is a very effective tool to increase the level of knowledge. This study also revealed the necessity for improvement of the working environment and the availability of appropriate protective equipment.[13]

A study was conducted on many strong chemicals which are used in health care setting for a variety of reasons. All chemicals are potentially hazardous; Hospitals also use a variety of method to disinfect and sterilize surfaces and equipment sterilizing instruments, some of the most commonly used chemical products, such as glutaraldehyde and ethylene oxide, have been shown to cause serious health effects. Several disabling health effects have been reported among hospital workers exposed to glutaraldehyde, including asthma and breathing difficulties, headaches, nausea, rashes and other symptoms.[30]

In a study conducted on occupational exposure to cyclophosphamide among nurses the researcher revealed that cyclophosphamide was found in urine specimen of 2 nurses involved in the preparation of these drugs. This signified the possibility of abortion of the drug could have taken place. The increase in levels of mutagenity was observed in urine specimens of nurses due to cyclophosphamide.[31]

Yet another study involving nurses and pharmacists found that the frequency of in vivo mutations in lymphocytes was significantly increased and appeared to be related to the duration of exposure to cytotoxic drugs.[31]

In a Finnish study of three head nurses with long term exposure to cytotoxic drugs revealed histological evidence of portal hepatitis with piecemeal necrosis in one of them and hepatic fibrosis in the others.[31]

Occupational exposure to antineoplastic drugs might pose hazards to reproduction ability among female nurses was revealed by a team of researcher in their study conducted among seventeen Finnish hospitals. The study found that statistically significant association between fetal loss and occupational exposure to antineoplastic drugs during the first trimester of pregnancy is 95%.[31]

Occupational exposure to anesthetic agents led to health hazards such as liver disease, kidney elements, loss of reproductive function, and interference with Vit B_{12} metabolism, spontaneous miscarriage. The researcher concluded that exposed health care worker had an increased risk of about 40% for spontaneous abortion.[31]

Yet in another study the researcher described a neurological disorder recently sub acute combined degeneration of the spinal cord in 15 patients who had prolonged exposure to Nitron oxide.[31]

Another study found evidence of bone marrow toxicity in 3 out of 20 dentists who were habitually exposed to mean nitrogen oxide level ranging from 159 to 4600 ppm.[31]

Yet another study conducted in Sri Lanka to assess the sensitization to antibiotics, especially penicillin and other substances among nurses. It shows that sensitivity to penicillin and other substances was found to be more common among hospital staff nurses 33.7% than the other professionals. Nearly one-third of those staff nurses who gave a history of allergy were allergic to penicillin only. Of those who were allergic to penicillin, 51% developed the allergy within 10 years of their service.[31]

Another study conducted in Finnish the researcher suggested that exposure to ethylene oxide may carry a risk of spontaneous abortion for sterilizing staff. They found that spontaneous abortion rate for exposed pregnancies were 16.7 % as compared with 5.6% for unexposed gestations.[31]

Chlorhexidine has been shown to be a cause of irritant contact dermatitis among nurses. In addition, cases of occupational asthma caused by chlorhexidine and alcohol aerosols in nurses have been described recently.[31]

A study conducted in Finland revealed that the frequency of rubber gloves allergy among nurses and doctors in operating units was 6.4%. Psyllium is a constituent of bulk laxatives. Sensititization to psyllium following occupational exposure has been shown for nurses. The allergic manifestations in affected nurses include rhinitis and asthma were shown more numbers.[31]

Section 3: Studies related to Biological hazards

A study was conducted to assess the knowledge, attitude and practices among health care workers on needle stick injuries. The results showed that 4% and 61% of health care workers, respectively, were unaware of the fact that hepatitis B and

hepatitis C can be transmitted by needle stick injuries. Among 74% with history of needle stick injuries, only 21% reported the injuries to the hospital authority. Only 66% were aware of universal precaution guidelines. The researchers concluded that a standing order procedure should be formulated regarding needle stick injuries in all the health institutions. The researchers suggested aimed to raise the knowledge level among nurses regarding hazards, preventive measures and post exposure prophylaxis to needle stick injuries.[27]

A study to determine whether the rural and urban differences in the degree of precaution taken by health care workers to prevent the spread of blood borne pathogens, specifically human HIV and HBV. The researchers found no measurable differences in universal precautions knowledge, compliance, or barrier scores between the rural and urban nurses. The researchers concluded that rural nurses were as experienced and as knowledgeable about universal precaution techniques as their urban peers, but their knowledge was not translated into practice to the same degree.[32]

An epidemiological study conducted to know the incidents involving occupational exposures to blood and body fluids among 350 health care workers. The highest injury rates were reported by nurses 74.6% followed by physicians 66.7%.The exposure was mainly percutaneous injury 97% which was commonly caused by needle recapping, suturing and handling of garbage bags. Among 350 HCWs, 291 (83.1%) had been previously vaccinated against HBV, while 2 (0.6%) HCWs were chronically infected with HBV. The researchers stressed on the importance of the use of universal precautions and safety enhanced devices, introducing effective training and efficient vaccination programs against HBV, in the clinical settings.[33]

A study conducted on self-reported infection control practices and perceptions of HIV/AIDS risk among nurses in Botswana. The researcher found that majority of respondents reported compliance with universal precautions. However, resource constraints that may hinder compliance with universal precautions such as a lack of appropriate facilities, shortage of equipment and materials, inadequate staffing and absence of sustainable in-service education programs. The researchers recommend in-service education and practice initiatives and further research is required to evaluate nurse's compliance with universal precautions in developing countries.[34]

A descriptive study was conducted among 504 health care workers in a tertiary hospital in Chennai. Purpose of the study was to find out frequency of needle stick injuries and other exposure to blood among health workers. Result shows that 25.5% nurses had needle stick injury in three months, 61.5% needle were contaminated with patients blood before needle stick occurred. 13.1% had percutaneous injury due to sharp objects other than needle in three month.31.3% had contact with patient's blood. About 18.6% had splashing of blood into eye, mouth or nose.[35]

A study was conducted regarding hand hygiene among 129 nurses in Turkey. This study aims to identify nurse practices and opinions of hand washing during routine patient care. The study rivaled that nurses have a poor level knowledge concerning quality of hand washing. All clean and dirty activities were evaluated using the Fulkerson scale. The conclusion of the study was it improves hand hygiene and quality of hand washing compliance nurse's skin condition, hand hygiene techniques and disinfections substantially. The Hospital need to implement innovative educational and motivational programmes.[36]

Another study was conducted on 500 nurses in a tertiary care referral hospital in Delhi to assess their knowledge, attitude and practices towards HIV/AIDS. While overall knowledge was satisfactory, there were gaping holes in vital areas. The conversion of their theoretical knowledge into safe practices was shockingly poor. It was due to attitude problems as much as inadequate supplies. High incidence of accidental exposures in the near past and complete ignorance of post-exposure prophylaxis guidelines. Tremendous efforts put in by the Government as well as various non-governmental organizations the health care settings were poorly equipped to fight the menace of occupational HIV transmission. In order to fight this menace, safe practices have to be made a way of life for health care workers.[37]

Another study conducted a study regarding awareness of the nurses concerning the occupational risk of hepatitis B, in this study shown that 56.2% of nurses had been inoculated against HB, 43.8% of nurses are not inoculated, and 41.5% of the nurses are having inadequate knowledge of the disease. As per this study report the nurses are not fully aware of their occupational risk regarding hepatitis B. For this reason nurses need more awareness regarding preventive measures and inoculation/immunization. It will help them to protect themselves from occupational risk and help to carryout their duty better.[38]

A study was conducted among 200 nurses to evaluate the level of knowledge regarding occupational risk of exposure to blood borne pathogens. The researcher found that the nurses were not worn gloves routinely. They had inadequate knowledge of inoculation injuries and associated issues regarding occupational safety measures. policies and procedures were not followed by nurses in clinical settings.[39]

A cross sectional study was conducted among health care workers they are residents, interns, nurses and technicians to estimate the incidence of exposure to blood and body fluids in the preceding 12-month period, by using questionnaire. The occupational exposure to blood and body fluid reported by 32.75% of the respondents. The self reported incidence was the highest among the nurses. Needle stick injury was the most common exposure 92.21% of total exposures. Only 50% of the staff informed to authority in this less than quarter of the exposed persons received PEP. The researcher concluded that occupational exposure of blood and body fluids was a common occurrence. There was gross under reported incidents leading to lack of PEP against HIV. All these would require proper notification, documentation and education of HCWs.[40]

A study was conducted in Government hospital, Pune to assess the existing practice of nurses regarding the waste segregation, disposal and other measures to control hospital acquired infection. The study revealed that out of only 40% of the nurses could described that meaning of biomedical waste, 90% correctly listed the different categories of waste,10% nurses were not aware. It was observed from the study that 50% of nurses wore gloves during procedures such as drawing blood, handling laboratory specimen and wound dressing. Only 50% of the ward and department nurses practiced recapping of the needles.[9]

A quantitative study was conducted regarding occurrence of worker accidents involving exposure to biological material among health workers .One hundred fifty five accidents were notified work accident communication. 40% involved exposure to infectious biological material like hepatitis and aids, 80.6% of accidents were needles.

so in this subject needs greater attention, suggested to implement preventive measures in all professional categories.[41]

Yet in another study conducted to assess quality of care with respect to hand washing practice as a routine measure of infection prevention, qualitative study with semi-structured interviews and group discussions were held with 34 health care workers and 30 patients in medical, surgical and obstetric wards were interviewed. 30% of health workers routinely washed their hands between patient contacts. The study reveled that health care worker need training for practice of good hand hygiene to prevent hospital infection.[42]

A study was conducted among health care workers to determine hand decontamination practices: compliance with recommended guidelines in university college cork, Ireland. A convenience sample of nurses, doctors and health assistants total 314 sample among these 73 observational participants, 62 questionnaires. The result revealed that a significant shift 32% occurred in health care workers' compliance with hand washing guidelines pretest 51% and posttest 83% following interventional hand-hygiene program.[43]

The Department of Community Medicine, Governmental hospital staff in Shiraz, Islamic Republic of Iran conducted a study regarding complying with infection control standards is essential to prevent nosocomial infections in 30 hospitals. The result showed that physicians and nurses were less compliant with personal hygiene practices than cleaners. Comparing hepatitis B and tetanus/diphtheria vaccination rates among staff with physicians scoring are highest. So measures are needed to improve health worker' compliance.[44]

Another comparative study was conducted among 290 nurses to examine nurses' perceptions of risk of contracting infection following single or multiple exposure to blood or body fluids. Among theme 133 nurse who responded, 85 were working in higher risk areas (Group A) and 48 nurses working in low risk areas (Group B).From both the groups those who believed that a needle stick injury as a likely source of infection were 99% and 60% from group A and group B respectively, very few nurses from both group 12% from group A and 10% from Group B not having knowledge whether reheating needle between use can provide protection against HIV.[45]

Another population based survey was conducted to assess the knowledge, attitudes towards practice of PEP among 650 health care workers with NSIs. A quantitative interview and operational research over a 5years period in the Thika district. Results showed that health care workers had same HIV sero-prevalance was at risk from poor bio-safety. In comparison to uptake of hepatitis B vaccination 88% and uptake of PEP was 4% this interview revealed that this was due to health care workers fear of HIV testing and their perception of NSIs as low risk. The incidence of needle stick injuries was 0.97 per healthcare worker per year. The researcher concluded that Bio-safety remains the most significant intervention through reducing the number of incidences.[46]

A review article published on hospital waste management cited that the average quantity of solid waste produced ranges from 1.5 to 2.2 kg /day/bed. The problem of hospital waste is more of quality than quantity. In this context 10 to 20% of the hospital waste is infectious and requires special disposal techniques. The most vital

component of waste management plan can be transformed through education, training and persistent motivation of health care staff.[47]

An exploratory survey was conducted to assess the knowledge attitude and practices of 200 health care staffs were divided in a tertiary level teaching hospital at New Delhi. The rationale of the study was to create the awareness among the employees across India in future. The study involved consultants, residents, scientists, nurses, O.T staffs and sanitary staff and laboratory staff. The study findings revealed that consultant's residents and scientists had 85%, 81% and 86% knowledge of biomedical waste management, nurses had only 60% knowledge, while assessing the attitude nurses had 100% score regarding awareness. O.T staff had an awareness level of 90% whereas the nurses had 80% awareness level. Although 40% had a previous exposure related to biomedical waste management.[48]

Another survey was conducted among 450 nurses to investigate the nurse's knowledge of and compliance with Universal Precautions. The study revealed that the nurses' knowledge of universal precaution was inadequate. Nurses had difficulty in distinguishing between deep body fluids and other general body secretions that are considered infectious in universal precautions. A high compliance was reported regarding hand-washing, disposal of needles and glove usage. The use of other protective wear such as mask and gaggles was uncommon. The result showed no significant relation ships between the nurses' knowledge and compliance with universal precaution. It is recommended that universal precaution education programmes need to consider attitudes in conjunction with empirical knowledge. The nurse manager, occupational nurse and nurse leader should ensure safe practices are used in the care of patients.[49]

A study was conducted to determine the relationship between the knowledge of nursing staff and their compliance to universal precautions for prevention of hepatitis B viral infection. An interview questionnaire and observation checklist was introduced to collect the data. The study revealed that nurses' knowledge was below average in all the items. Although no significant relation was found between nurses' knowledge and their performance regarding the universal precautions, the less than 5 years of experience had a higher score than those having more than 5 years of experience in 6 items. The study reflects the need for in-service educational and training programs on infection control for nurses.[50]

Another study was conducted among 543 nurses including all community learning disability nurses, community mental health nurses and generic community nurses from one Welsh Health Authority were surveyed with response rate of 70%.The majority of community nurses reported compliance with Universal precautions, nurses stated that they re-caped needles, inappropriately stored sharps .This study shows that the community health nurses working in a unique and unpredictable environment, and nurses unable to comply with existing universal precautions guidelines. The production of new infection control guidelines for the community by the National Institute of Clinical Excellence in June 2003, had addressed some of the difficulties faced by community nurses.[51]

A study was conducted to identify, categorize and assess critical incidents of no adherence to standard precautions' in community hospital. The nurses were not using standard precautions are 22%, using precautions are 20%, precautions were not warranted in a specific situation 14%, potential for exposure 14%, hurry due to high job demands 11%, less often, equipment was not available 7%, forgot 6%, patients

did not pose a risk 4%. Overall non-adherence 44%, wore gloves less than 100%. 61% wash their hands. Needle stick injuries were lowest among those who had forgotten to use precautions; according to this study report the researcher included that using specific information about local incidents of no adherence to standard precautions may enhance training, this program helps workers plan for them in future.[52]

Section 6: Studies related to Psychosocial hazards

A study was conducted on Risk factors for work related violence in a health care organization. There were 1751 current and former employee's response rate is 42% the result shown that physical and non-physical violence was experienced by 7.2% and 30.6% of the respondents of physical violence to patient care assistants and increased physical violence were identified for the nurses.[53]

A study conducted to assess the stress causing psychosomatic illness among nurses to identifying major source of stress and finding psychosomatic illness related to stress by using a questionnaire to 106 nurses, stressors were based on four main factors: work related, work interactions, job satisfaction and home stress. The results shown that most causes of stress were jobs not finishing in time because of shortage of staff, conflict with patient relatives, overtime and insufficient pay, psychosomatic disorders like acidity, back pain, stiffness in neck and shoulders, forgetfulness, anger, worry. The researcher concludes that the health care organizations need to urgently take preemptive steps to counter this problem.[54]

In a study conducted to assess the level of stress experienced by working nursing personnel in hospitals of Madhya Pradesh state, the occupational stress

according to dimension wise seen among different levels of nursing personnel, GNM 80% experienced stress in administrative dimension; B.Sc nurses 71.2% felt stressful, whereas Post Basic B.Sc nurses 100% experienced it was stressful. In the professional issues dimension, the GNM nurses 69.9% experienced higher stress levels than the B.Sc nurses 46.2% and PC B.Sc nurses 66.7%. In relation to limited resources dimension, GNM nurses 69.5% experienced more stress when compared to B.Sc nurses 66.7% and PC B.Sc nurses 46.2%. With regard to staff conflict dimension, B.Sc nurses had more stress 75.8% when compared to GNM nurses 72.9% and PC B.Sc nurses 61.6%. In relation to scheduling dimension, PC B.Sc nurses 100% had experience stress in staff scheduling, when compared with GNM nurses 81% and B.Sc nurse's 76.9% respectively.[55]

In another study conducted on occupational stress and job satisfaction among nurses at NIMHANS, the researcher described that the general hospital nurses express significantly more stress in the areas namely lack of support from supervisors, inadequate response for their complaints, inadequate staffing, lack of communication between the disciplines, co-workers refusal to deliver assigned responsibities, doctors unscheduled rounds, forced to work in different shifts and covering other wards because of the unscheduled absence of other workers. Where as mental hospital nurses indicated occupation stress only in one area namely physical threat by the patients. The pattern of expression of job satisfaction by the general hospital nurses has been suspected to have not paralleled their extent of reported stress experience. This hints at their poor patterns of coping and expression of emotional turmoil.[56]

A cross sectional study to determine the interaction between situational, factors, role stressors hazard exposure and personal factors among 246 nurses from

the Philippine General hospital. The result showed that 49.6% of them reported being ill due to work in the past year, and 56.1% missed work because of an illness, 5.7% of the total respondents were hospitalized due to illness result. More than 52.8% were even currently taking antibiotics. The top 10 symptoms or somatic manifestation of psychiatric symptoms among the respondents were headache 78.0% cough and cold 72.0% back pain 63.8% leg cramps 46.3% sleep disturbances 38.6% hyperacidity 35.4% migraine 32.5% dizziness 31.7% diarrhea 31.3% and stiffness of neck 25.2%.[57]

A study was conducted among 120 nurses to find out how the stress causing psychosomatic illness to identify major causes of stress. Questions related to sexual harassment, drug addiction and substance abuse and also both job stress and home related stress factors was 27. These are work related 8, interaction at work place7, job satisfaction 5, home related stress 7, each stress factor was graded to its potential to causing psychosomatic illness to identify major causes of stress to nurses in there work setting.[58]

A descriptive study was conducted to determine the job satisfaction among 102 nurses from the People's Republic of China by using convenience method, self-report questionnaires administered. The researcher reviled that best predictor of job satisfaction were workload, year of experience uncertainty about patients' treatment, behavioral disagreement and positive reforming. The study findings provide that some factors need to be implement to facilitate job satisfaction among nurses.[59]

Another study was conducted among 50 nurses to determine the effectiveness of laughter therapy in reduction of job stress in selected hospital, Bangalore. The researchers assessment revealed the pre test job stress score with over all mean of 16.68 (55.6%) stress related to facilities and resources; 12.22 (50.91%) had stress

related to knowledge and skills; 18.4 (55.75%) nurses had stress related to co-workers, 17.3 (52.42%) nurses had stress related to organizational problems. The researcher successfully implemented the laughter therapy and found significant reduction in stress levels among nurses. In the post test, the job stress score findings revealed that the mean score of stress related to facilities and resources was 12 (40%); knowledge and skill was 9.08 (37.83%); stress related to co-workers was 15.16 (45.93%); stress related to organizational problems was 15.66 (47.45%) which were significantly lower than the pre test mean scores. Hence, the researcher concluded that the laughter therapy had significant effect in reducing the occupational stress levels among nurses.[60]

Section 5: Studies related to Legal hazards

In a review conducted by a researcher to explore the nature and extent of the legal duty of care for nurses and other health professionals. The findings revealed that a number of experienced nurses are currently assuming extended roles and some are completing medical tasks, traditionally allocated to doctors. The researchers cautioned these specialist practitioners that additional responsibility invariably means increased professional risk and accountability. They also recommended that nurses and other health care professionals must update their clinical skills and practice within a legal framework and to certain standards.[61]

An exploratory study was conducted by researchers in Korea regarding Nurse's perceptions of informed consent and their related roles. The participants included 12 nurses from selected departments from two university hospitals in Seoul and Kwang-ju, Korea. The findings revealed that nurses perceived a lot of problems in the process of obtaining informed consent and noted the need to modify this

process. Although the role of nurses was found to be insignificant in the process of obtaining informed consent, some nurses wanted to participate in the process in order to advocate the patients and to verify if patients had received the information they needed. The researchers concluded that nurses can take a proactive role in the process of informed consent, as advocator as well as witness. This may be influential in balancing patient autonomy with paternalism, changing the skewed patient-physician relationship to one of mutual respect.[62]

A study was conducted to find out medication errors in hospital patients during dispensing, distribution and administration of drugs among 610 health care workers. The most common cause of error were prescription of a different dose from the one prescribed 39%, administration error 17%, subcutaneous infusion of an intravenous drug 15% and that the drugs was given to another patient 12%. In 107 cases 18% precautions had been taken to reduce the injury after the error had been identified these all errors caused by stress, lack of appropriate routines and lack of appropriate skills. The study implemented that improved education in existing routines and increased pharmacological competence to prevent the medication errors.[63]

A study was conducted to assess the information about the ethical sensitivity and also ethical knowledge among 165 nurses. More than half of the nurses can be considered to have made decisions based on beneficence for the first scenario, while more than half of them preferred to make decisions based their decisions on veracity. This study suggests that participated nurses were sensitive to issue of confidentiality, truth telling and beneficence and also they were not equally sensitive when the right to refuse treatment was concerned.[64]

A study conducted among nurses perceptions of ethical issues in the care of elder people in South Australia. The themes of the study was sources of ethical issues for nurses, differences in perceptions between nurses and patients, relatives, nurses personal responses to ethical issues and the patient-nurse relationship. The findings of the study reveal ageism is one of the major sources of the ethical issues that arise for nurses caring for older people. The researcher suggested that the nurses need more training in the care of older people.[65]

A study conducted to explore the nature and extent of the legal duty of care for nurses and other health professionals. The aim of the study to re-frame and update the legal duty of care for clinical nursing practice in the 21st century. The result shows that implications for nurses and other health care professionals to give quality patient care. The researcher concluded that experience nurses are currently assuming extended role and completing medical tasks, traditionally allocated to doctors, these additional responsibility increased professional risk and accountability. Therefore nurses and other health care professionals must update their clinical skill and practice within a legal frame-work and to certain standards.[66]

A study was conducted in Washington, USA, to describe the relationship between nurse practitioners' (NPs) knowledge of legal guidelines for end-of-life decision-making, their knowledge of the clinical application of advance care planning (ACP), and their comfort in counseling patients on these issues and personal attitudes toward end-of-life care. The sample included 145 Washington State NPs. Most NPs in this study were reasonably knowledgeable about the legal guidelines for end-of-life decision-making and clinical applications for ACP. They were somewhat comfortable with counseling patients on end-of-life decisions and expressed positive attitudes

toward end-of-life care. However, a significant number of NPs were ill-informed about the legal guidelines and few actually incorporated ACP into their clinical practice. The authors suggested that educational programs should focus on addressing the problem of stable misinformation related to legal guidelines. In addition, education should offer NPs didactic information and role modeling to skillfully incorporate ACP into clinical practice.[67]

Section 6: Studies related to Educational programmes on occupational safety measures among nurses

A study conducted to assess the effectiveness of planned teaching programme on biomedical waste management among nurses working in a selected hospital at Mangalore. The result shows that the pretest knowledge level of staff nurses on different areas of biomedical waste management showed less then 50 percent knowledge level in areas of waste segregation and categorization 39.8 percent, waste handling and collection 30 percent and treatment and disposal 30% which indicates knowledge deficit in these areas. In the posttest the result shows that highest 95% was in the area of waste transportation, maximum modified gain was in the area of waste handling and collection 2.27%, transportation 1.3%.The posttest knowledge 29.72% were higher then the pretest 17.37%.The t value showed the significant difference in the posttest, which indicates that the planned teaching programme was effective in increasing the knowledge of staff nurses regarding biomedical waste management.[68]

A study was conducted to assess the effectiveness of stress management program on stress level, coping among nurses. In the post test there was no change in the nature of coping strategies adopted by the nurses. The nurses had more self regulation and self attitude. Overall coping index 62% prior to the intervention. After

the immediate intervention, post test were high i.e. 70% and four weeks following intervention was 76%. In the area of coped with stress through social support at work coping index was 57% prior to the intervention which gradually got strengthened to 67%. Immediate post intervention and 73% after four weeks following intervention. The coping strategy was diverting one's attention away from work with coping index 56% prior to the intervention which got strengthened to 62% immediate post intervention and 69% four weeks following interventions. The researcher concluded that following the specific interventions, there was significant increase in level of coping among the nurses. [69]

In another study conducted among different health care workers to assess effectiveness of protocols for preventing occupational exposure to blood and body fluids in Duch hospitals. Health workers perception of risks, familiarity with protocols, motivation and actual behaviors, were assessed and found overestimated their own knowledge and skills, and compliance was influenced by risk perception. Health care workers encountered problems with comprehension, acceptability and applicability of protocols, especially for post-exposure precautions. Most health care workers experienced a lack of organizational support to aid compliance. To improve compliance, recommend information and training on risk management and individual responsibilities.[70]

A study was conducted among 433 health care workers in Nigeria to assess the practice of universal precautions. In the study researcher found that one third of nurses always recapped used needles. Less than two thirds of respondents 63.8% always used personal protective equipment and more than half of all respondents 56.5% never used protective equipments like goggles during deliveries and at

surgeries. The researcher recommended that training programmes and other relevant measures should be put in place to promote the appropriate use of protective barrier equipment by health care workers at all times.[71]

A study was conducted to evaluate the effectiveness of occupational safety training course regarding chemical and biological risks among health care workers in Italy. Three groups of nurses and nursing students participated in the training course. The researchers found that multimedia-teaching method used was effective in improving the knowledge regarding occupational safety measures regarding chemical and biological risk.[72]

Another study was conducted on health care worker's hand washing / hand hygiene practices from a behavioral perspective. Nurses, doctors, physiotherapists and care assistants involved in direct patient care participated in the study. The researcher designed an interventional hand hygiene programme which aimed to predispose health care workers to adopt and reinforce hand hygiene behavior. The researchers found that implementation of the multifaceted interventional behavioral hand hygiene programme resulted in an overall improvement in compliance with hand hygiene guidelines. Furthermore, healthcare workers believed that their skin condition improved. An increase in knowledge about hand washing guidelines was also found among nurses. The researcher concluded that in order to achieve an overall improvement in compliance with universal precautions, such interventional programmes are more effective.[73]

A study conducted to assess trained nurses knowledge regarding universal precautions and routes of transmission of blood borne viruses such as HIV and hepatitis B. C and the measures required to prevent cross infection. The study

indicates that trained nurses have incomplete knowledge regarding principles and application of universal precautions. This study discussed the role of education in improving the knowledge of trained nurses and considers the implementation of in-service training and preregistration education.[74]

A study to implement a comprehensive patient handling program in non profit community hospital. The researcher address that nurses experience more back injuries than the general population due to their physically demanding work. Research indicates that the implementation of a comprehensive patient-handling program will reduce the number of patient-handling injuries and associated problems. A significant barrier to the effectiveness of safe patient-handling programs includes lack of appropriate and easily accessible equipment for caregivers. The study found an increased use of patient-handling equipment in nonprofit community hospital by caregivers following the implementation of a patient-handling program, for this program success effective planning should be done in the area of comprehensive patient-handling program.[75]

4. Methodology

4. Methodology

4. METHODOLOGY

The methodology of research indicates the general pattern of organizing the procedure of gathering valid and reliable data for the problem under investigation. This chapter deals with the description of research approach, research design, setting, variables, population, sample and sampling technique, development and description of the tool, validity and reliability of tool, pilot study, method of data collection and the plan for data analysis.

RESEARCH APPROACH

Research approach indicates the procedure for conducting the study.[16] In order to accomplish the objectives of the present study, an evaluative approach was adopted.

RESEARCH DESIGN

Research design is concerned with the overall framework for conducting the study. A quasi-experimental one-group pretest-posttest design was adopted to carry out the present study.

SETTING

Based on the feasibility to conduct the study, investigator selected public health settings such as Primary health center's, Maternity homes, First referral units (General hospitals), Bengaluru Urban District.

POPULATION

The population is referred to as the target population, which represents the entire group or all the elements like individuals or objectives that meet certain criteria

for inclusion in the study.[16] The population of the present study comprises of all nurses employed in public health settings under District health officer, East Taluk, Bengaluru urban district.

SAMPLE

Sample refers to subset of a population that is selected to participate in a particular study.[16] Sample size of the present study consists of 70 nurses working in P.H.Cs, Maternity Homes, General Hospitals of Bengaluru urban district.

SAMPLING TECHNIQUE

Sampling defines the process of selecting a group of people or other elements with which to conduct a study. East taluk of Bengaluru urban district were selected by Simple random sampling technique, among which the nurses were selected by adopting convenient sampling technique after obtaining willingness to participate in the present study.

SAMPLING CRITERIA

The samples are selected with the following predetermined set of criteria:

Inclusion criteria

Nurses who are:

- willing to participate in the study
- present during the period of data collection.
- with ANM, GNM, PC B.Sc or B.Sc Nursing qualification.
- working in P.H.C, Maternity Home, General Hospital.

Exclusion criteria

Nurses who:

- Reported previous training on occupational safety measures or occupational safety hazards in health care settings.
- Reported any special training such as infection control.
- Have qualification M.Sc nursing and above.

DEVELOPMENT OF TOOL

After an extensive review of literature, discussion with the experts and based on the investigator's personal experience the structured knowledge questionnaire regarding the occupational safety measure among nurses was developed. The first draft of the tool with blue print was developed with 30 items. Item Nos. 2, 3, 4, 13, 19, 20, 21, & 30 were modified based on the suggestions from experts. Further, six new items were added. Based on item analysis-discriminative index was found to be 0.16 for item No. 3, which was very difficult to answer. Hence, the item was deleted. The tool was pretested based on item analysis, discriminative index is 0.3% and the difficulty index 70%. Few new items were added and modifications done based on experts suggestions and opinion. Thus the final draft of the tool consists of 40 items.

Description of the tool

The tool consists two section viz., section-A and section-B.

Section-A: It deals with the demographic variables of nurses such as age, gender, marital status, monthly income, professional qualification, years of experience and sources of information on occupational safety measure among nurse.

Section-B: It consists of 40 knowledge items regarding the occupational safety measure Basic concepts , Physical hazards, Chemical hazards , Biological hazards, Ergonomics , Psycho social hazards , Legal safe guard.

DEVELOPMENT OF STRUCTURED TEACHING PROGRAMME

The developed STP was given to 13 experts in the field of Nursing and Medicine to establish its validity. Based on their suggestions and recommendations the STP was modified and simplification was done and thus the final draft of the STP was developed.

CONTENT VALIDITY

The developed tool was given to 13 experts; they include one Statistician, nine from the field of Community Health Nursing, one from the field from the field of Psychiatric Nursing and two from the field of Community medicine (P&S) to establish validity of tool. Based on their suggestions and recommendations the tool was modified, rearrangement of certain items and simplification of some terms were done.

RELIABILITY

Reliability of research instrument is defined as the extent to which the instrument yields the results on repeated measures. It is concerned with consistency, accuracy, precision, stability, equivalence and homogeneity. In order to establish reliability of the tool, the technique called split half method was used and reliability co-efficient of the tool was calculated by using raw score formula. The calculated 'r' value is 0.95 and the developed tool was found to be reliable.

PILOT STUDY

After obtaining formal permission from the D.H.O, Bengaluru urban district and Administrative Medical Officer, P.H.C and General Hospital, Krishnarajapuram, Bengaluru, pilot study was conducted from 21/07/2009 to 29/07/2009 among 10 nurses selected by using convenient sampling technique.

From those nurses who expressed willingness to participate in the study written consent was obtained. The pretest was conducted on 21/07/2009 using structured knowledge questionnaire and structured teaching was implemented. On eighth day (29/07/2009) using the same structured knowledge questionnaire posttest was given. The findings revealed that most of the nurses had moderate knowledge and only two nurses had adequate knowledge regarding occupational safety measures. The tool and STP was found to be feasible for the main study. Following pilot study, it was observed that 30 to 40 minutes were required to administer the knowledge questionnaire and two hours needed for teaching programme.

METHOD OF DATA COLLECTION

After obtaining the formal permission from the District Health Officer, Bengaluru urban district. Seventy three nurses were selected by using convenient sampling technique. The obtained informed written consent from nurses who were willing to participate in the study. The nurses were assured the anonymity and confidentiality of the information provided by them.

From the total of 154 nurses, only 73 nurses gave consent to participate in the present study. Pretest was conducted among 73 nurses and three nurses did not return to attend the post test, hence those three nurses dropped out from the study. Thus the

total sample for the study consisted of 70 nurses and the response rate was found to be 95%.

Pretest was conducted with structured knowledge questionnaire between 04/08/09 to 28/08/09 and STP on Occupational safety measures was administered on the same days for participants. On eighth day i.e. is from 11/08/09 to 19/09/2009 same structured knowledge questionnaire was used to collect the post-test data, the time taken to complete the structured knowledge questionnaire on occupational safety measures was 30 to 40 minutes.

PLAN FOR DATA ANALYSIS

Descriptive and inferential statistics were used to analyze the data and significant findings were presented in the form of tables, graphs and figures.

SUMMARY

This chapter dealt the description of research approach, research design, settings, variables, population, sampling and sampling technique, development and description of the tool, validity and reliability of tool, pilot study, procedure for data collection and the plan for data analysis.

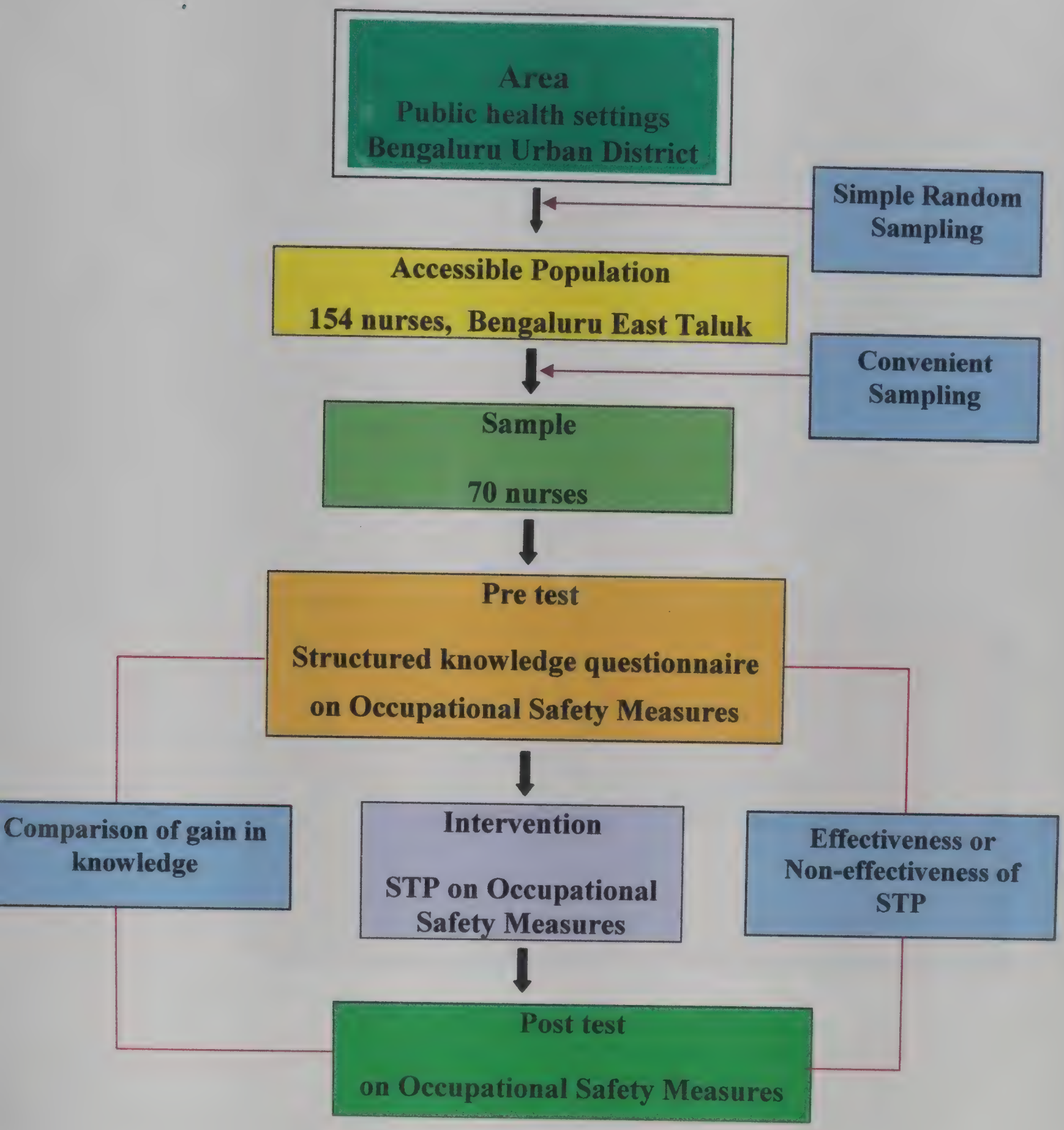


Figure 2: Schematic representation of the study

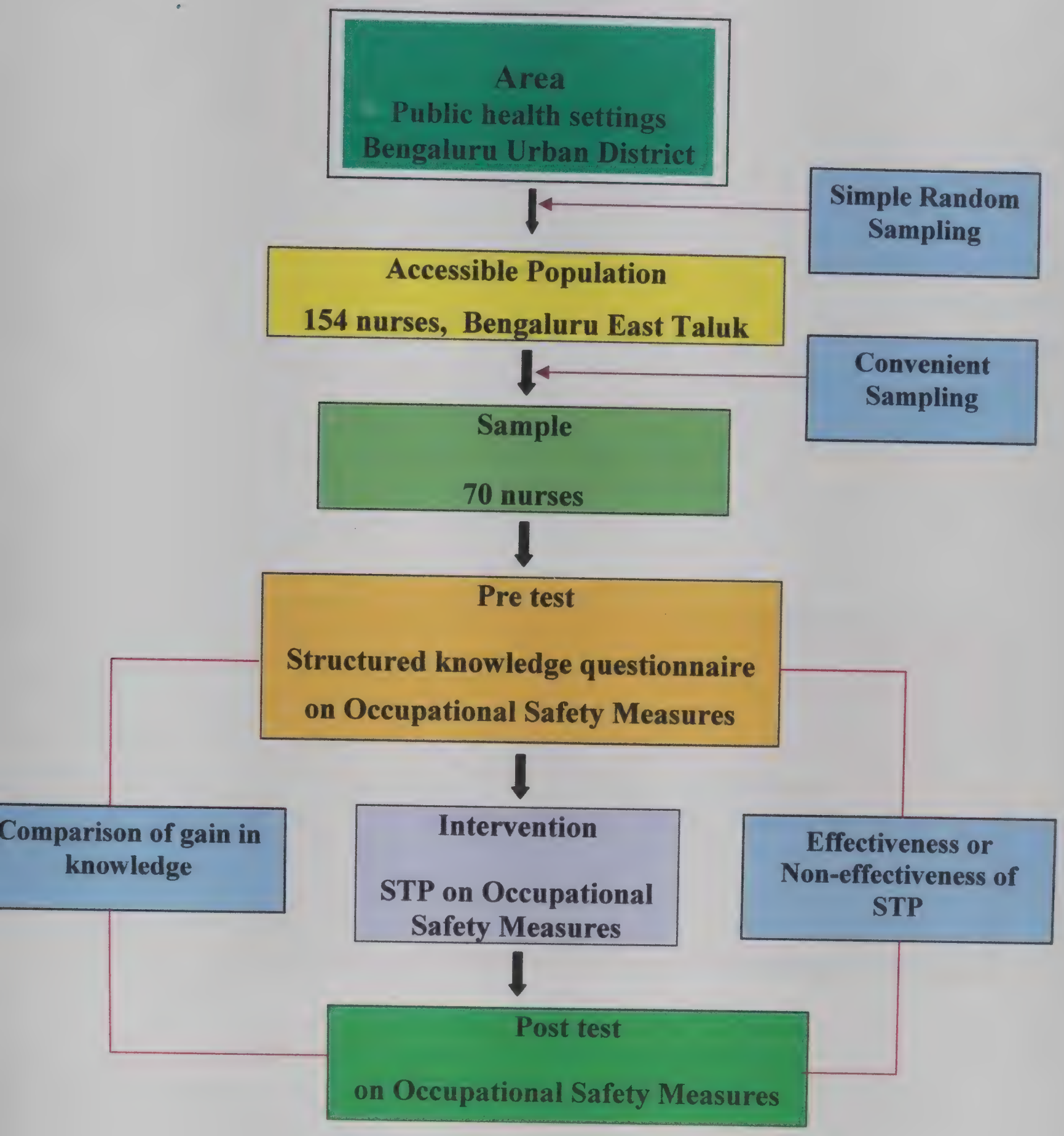


Figure 2: Schematic representation of the study

5. Results

5. Results

5. RESULTS

Analysis is defined as categorizing, ordering, manipulating and summarizing of data to reduce it to intelligible and interpretable form so that research problem can be studied and tested including relationship between variables.[16]

This chapter deals with the analysis and interpretation of data obtained from 70 nurses in order to assess the effectiveness of structured teaching programme on knowledge regarding Occupational Safety Measures in selected public health settings of Bengaluru Urban District.

Descriptive and inferential statistics are used to analyze the collected data. The data findings have been organized, finalized and presented under the following sections.

Section I: Demographic variables of the nurses

Section II: Knowledge of the nurses regarding Occupational Safety Measures in the pre and post test.

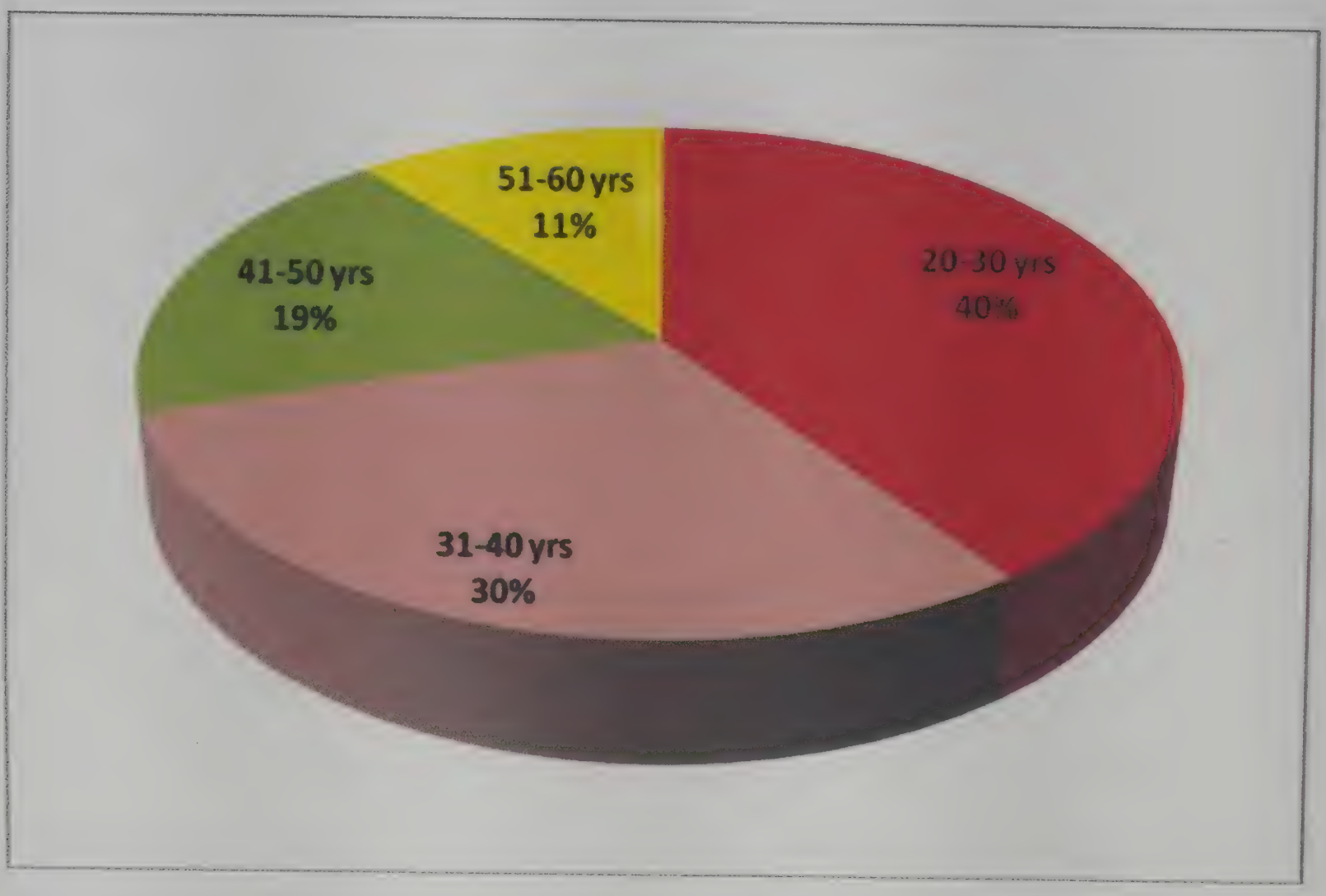
Section III: Comparison of pre and post test knowledge score of nurses regarding Occupational Safety Measures.

Section IV: Association of demographic variables of nurses with pretest knowledge score.

SECTION - I: DEMOGRAPHIC PROFILE OF NURSES

Fig: 3 Distribution of nurses by Age

N=70



The above Fig – 3 depicts that majority of nurses 70% belonged to the younger age group of 20 to 40 years, while 18.6% nurses were aged between 41 to 50 years and only 11.4% were older age group of 51 to 60 years.

SECTION - I: DEMOGRAPHIC PROFILE OF NURSES

Fig: 3 Distribution of nurses by Age

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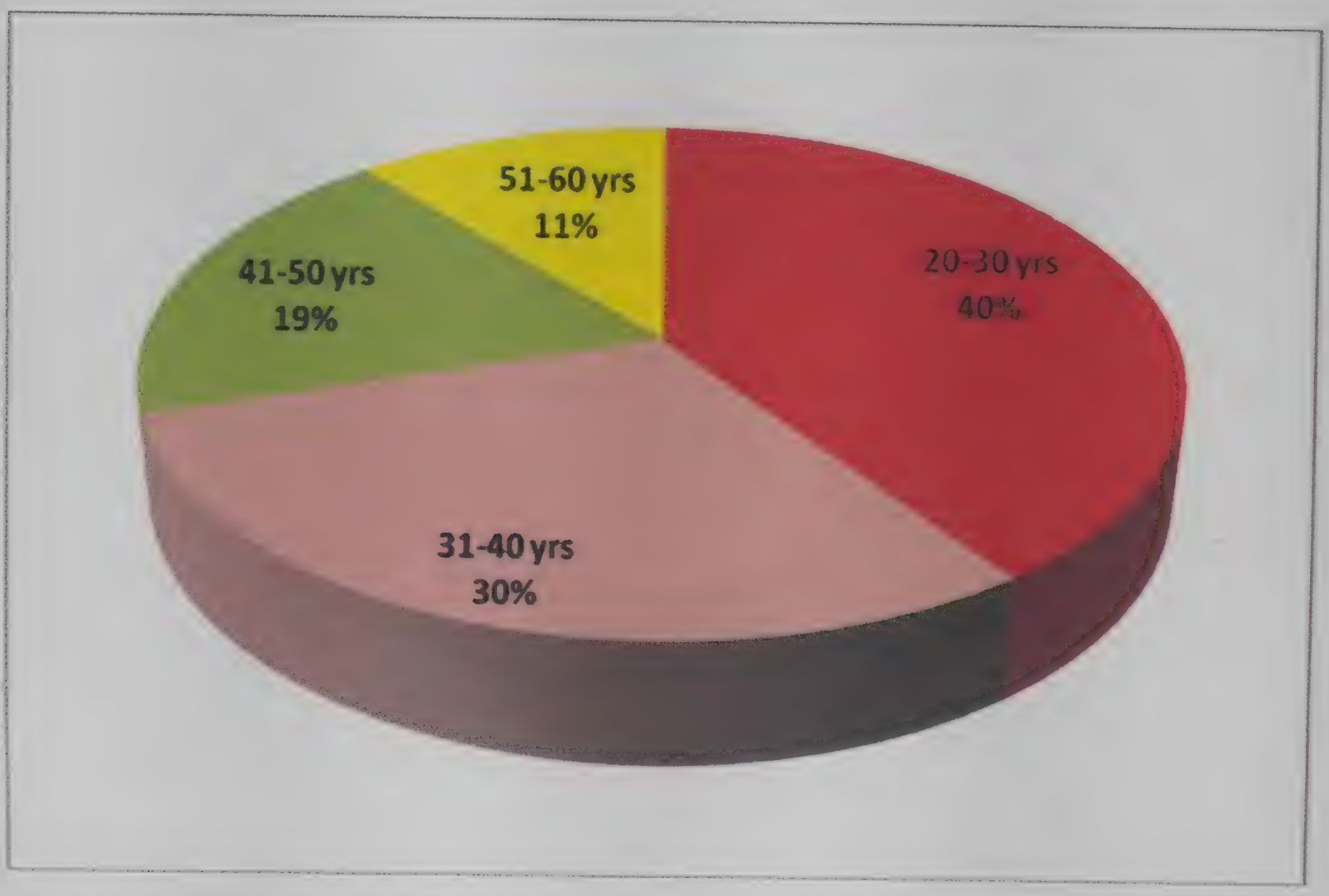
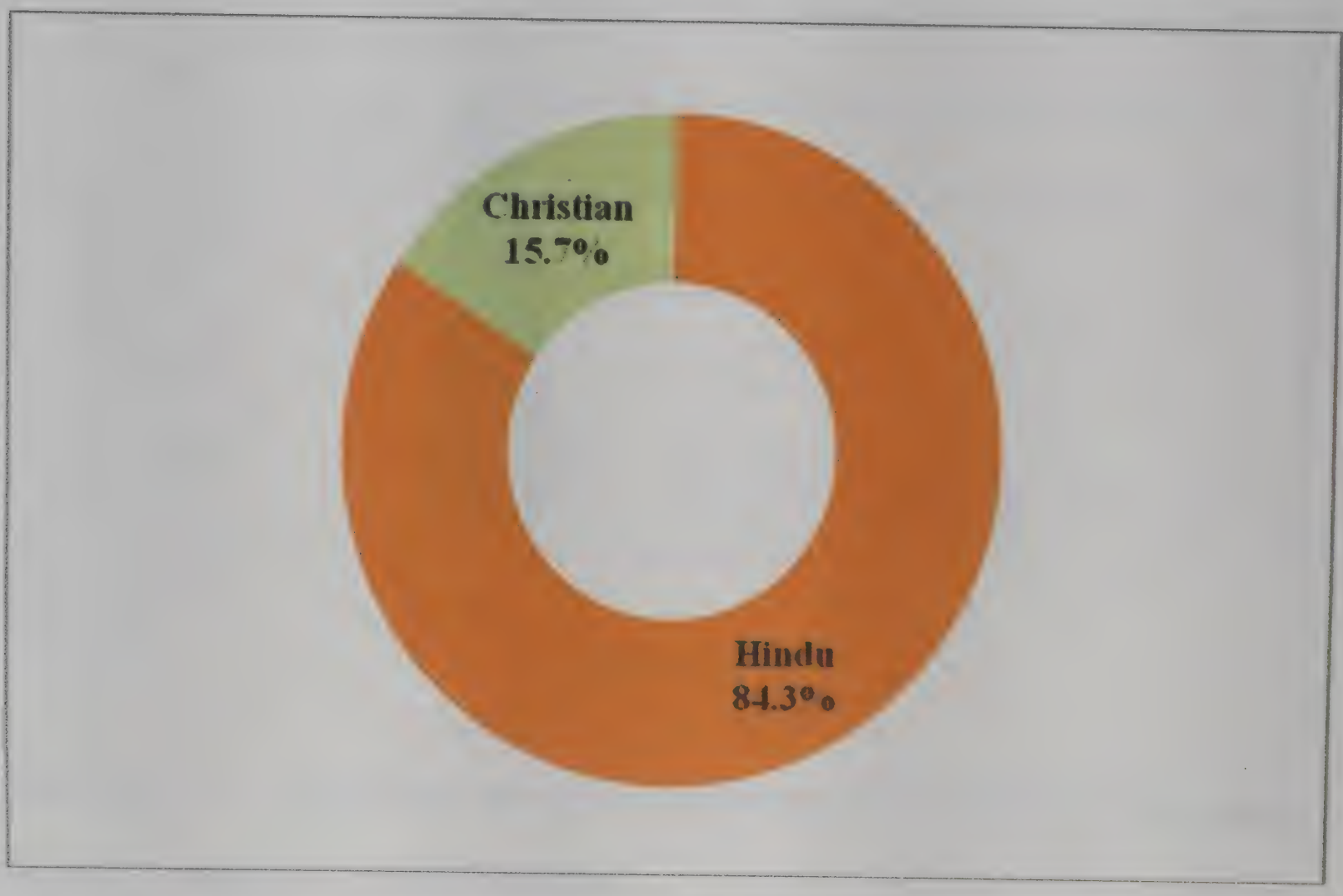


The above Fig – 3 depicts that majority of nurses 70% belonged to the younger age group of 20 to 40 years, while 18.6% nurses were aged between 41 to 50 years and only 11.4% were older age group of 51 to 60 years.

Fig: 4 Distribution of nurses by Religion

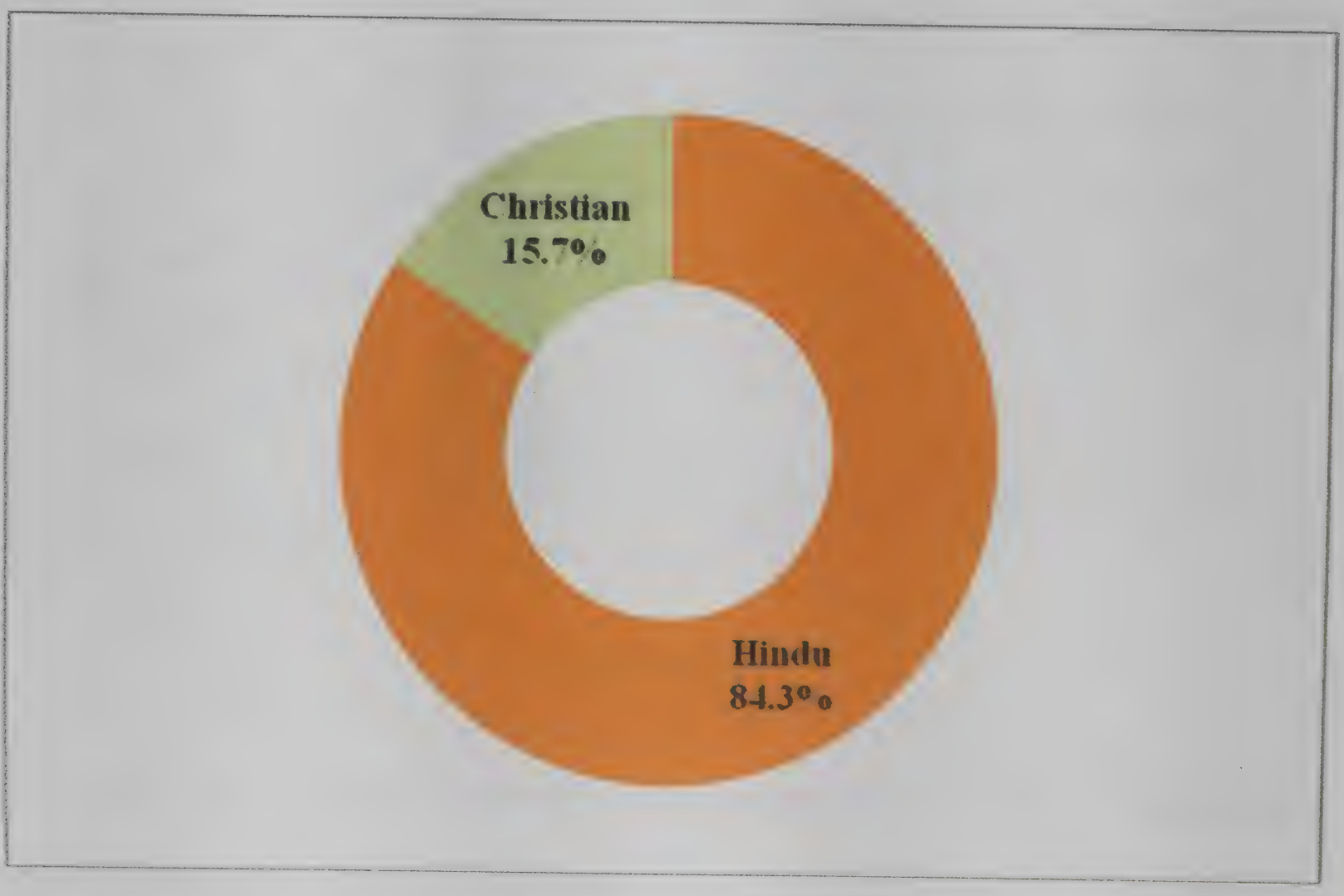
N=70



The above Fig – 4 reveals that 84.3% nurses were Hindus, while only 15.7% were Christians by religion.

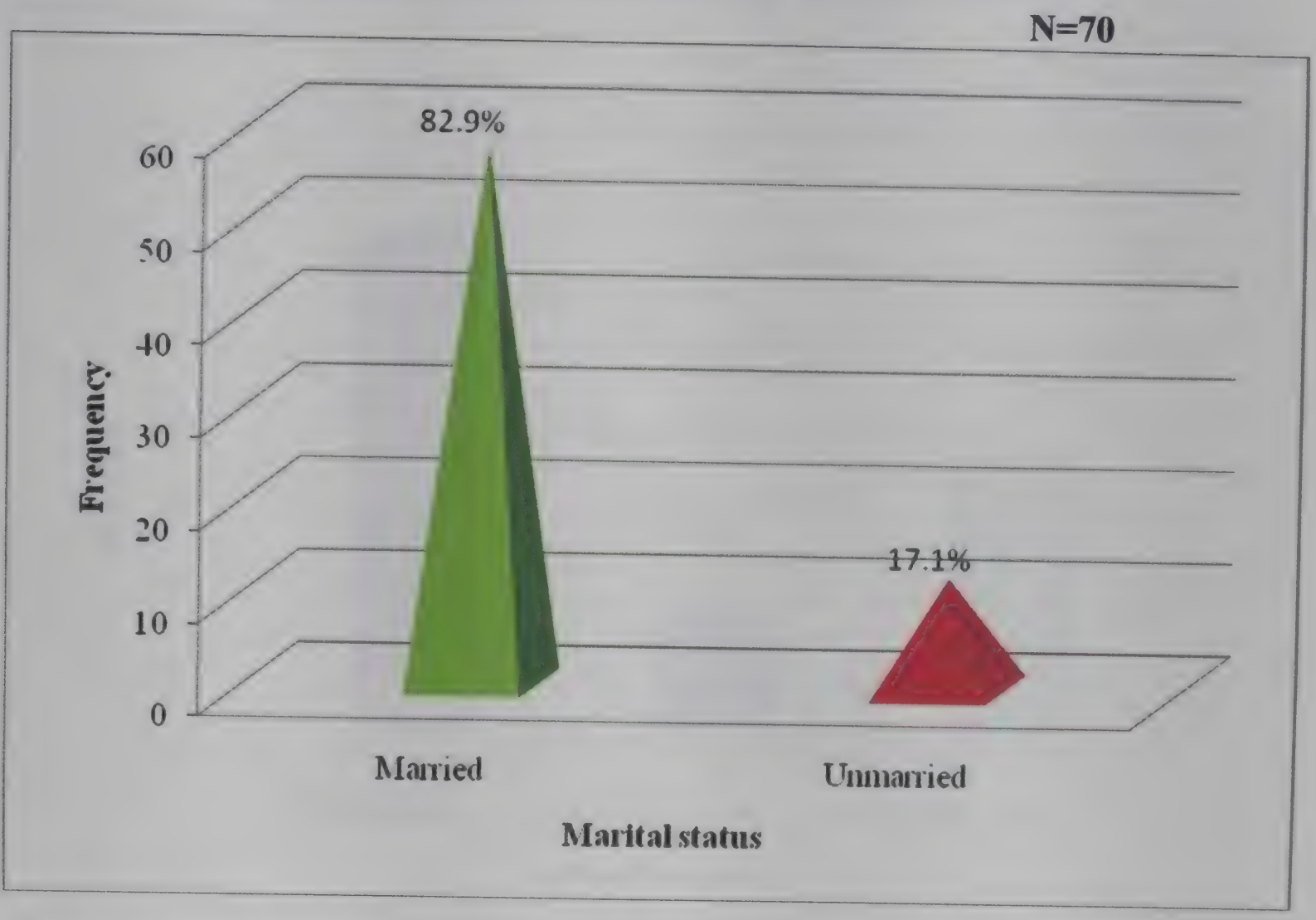
Fig: 4 Distribution of nurses by Religion

N=70



The above Fig – 4 reveals that 84.3% nurses were Hindus, while only 15.7% were Christians by religion.

Fig: 5 Distribution of nurses by Marital status



The above Fig – 5 depicts that majority of the nurses were married 82.9% and a small number of nurses 17.1% were unmarried.

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Bangalore - 34
(CLIC)

Fig: 5 Distribution of nurses by Marital status

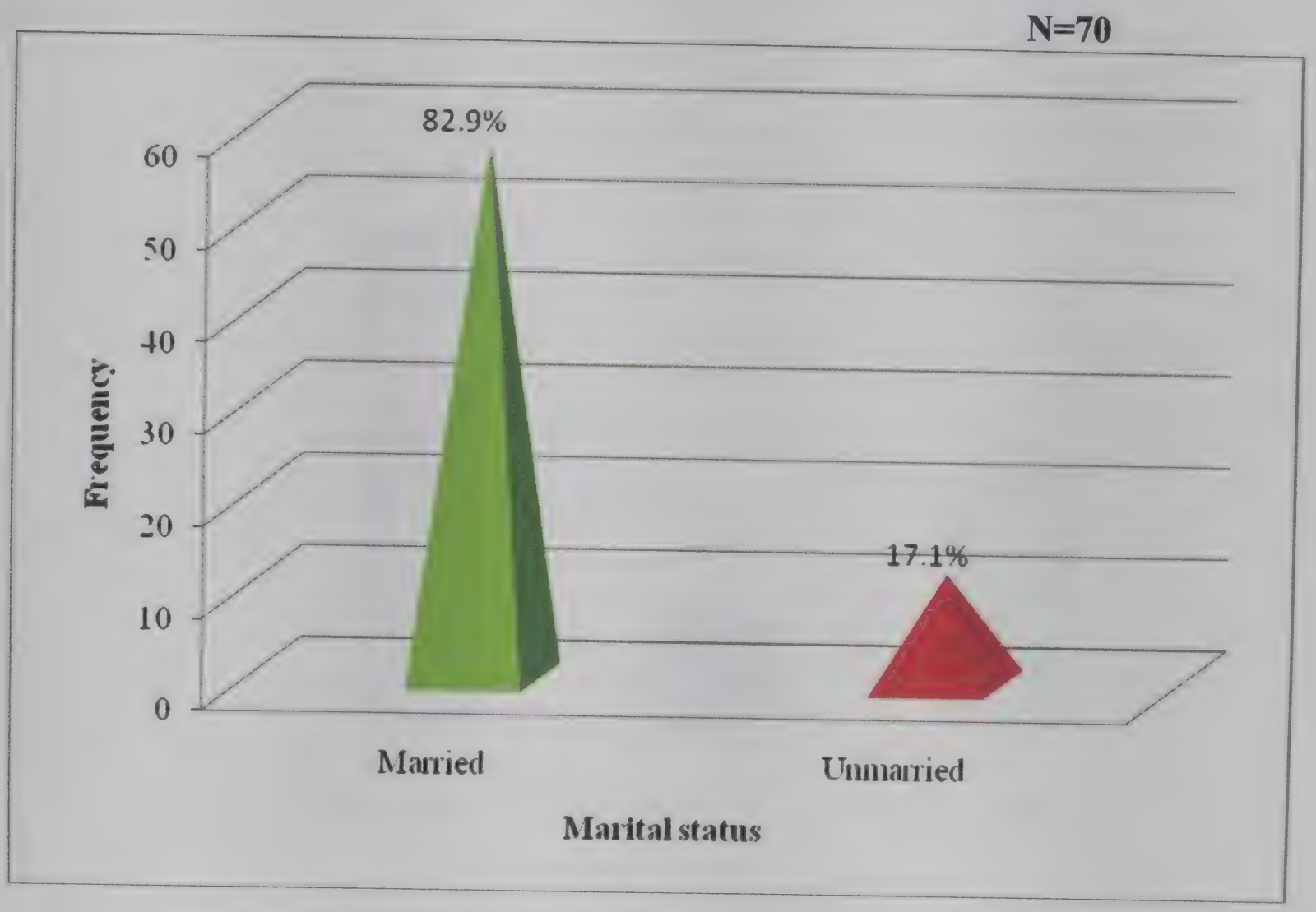

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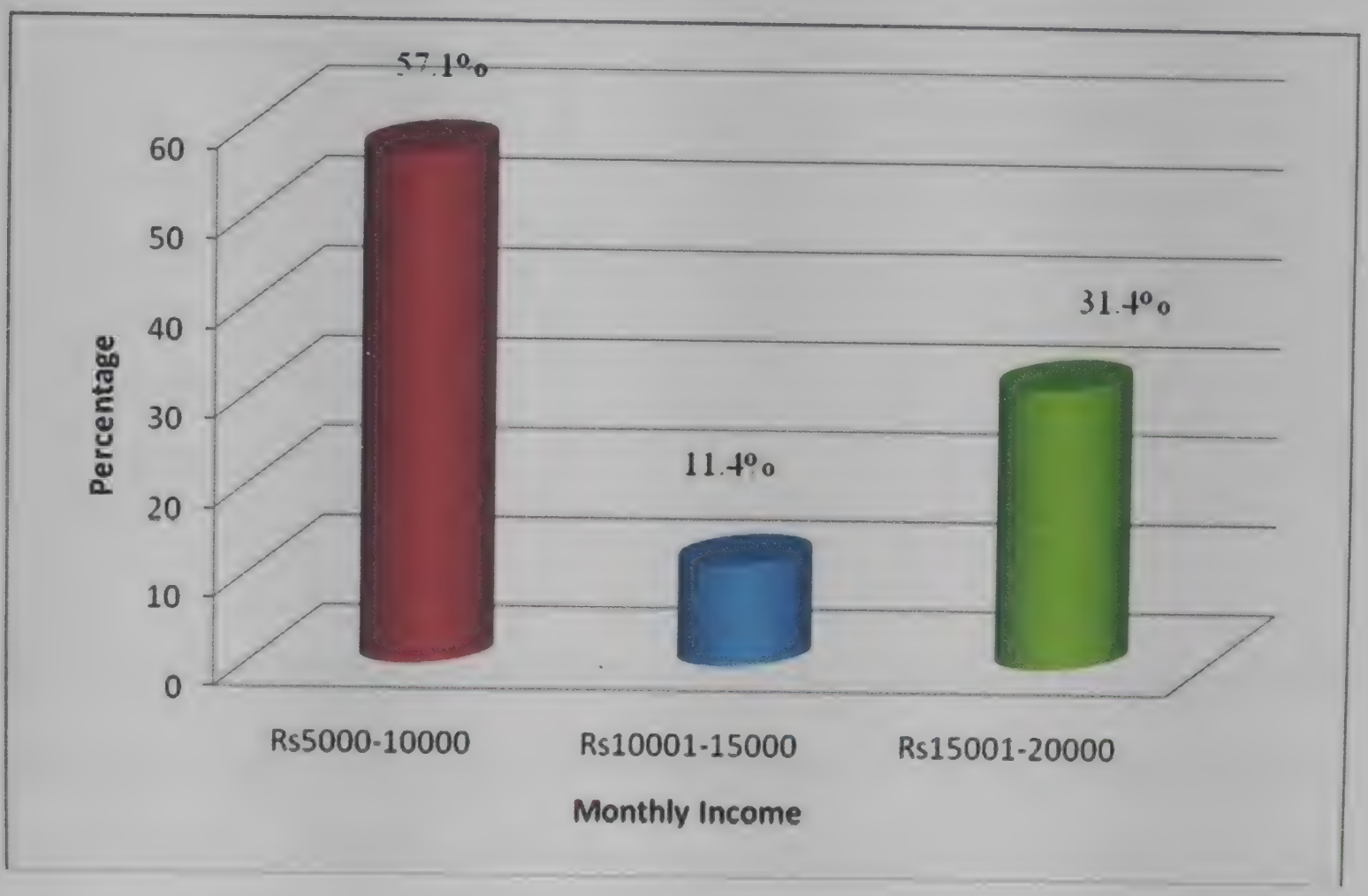
Fig: 6 Distribution of nurses by Monthly income



The above Fig – 6 depicts that more than half of the nurses had reported as having a moderate monthly income of Rs 5,000 to 10,000, while 11.4% had monthly income between Rs. 10001 to 15000 and one third of nurses 31.4% had monthly income between Rs. 15001 to 20000.

Fig: 6 Distribution of nurses by Monthly income

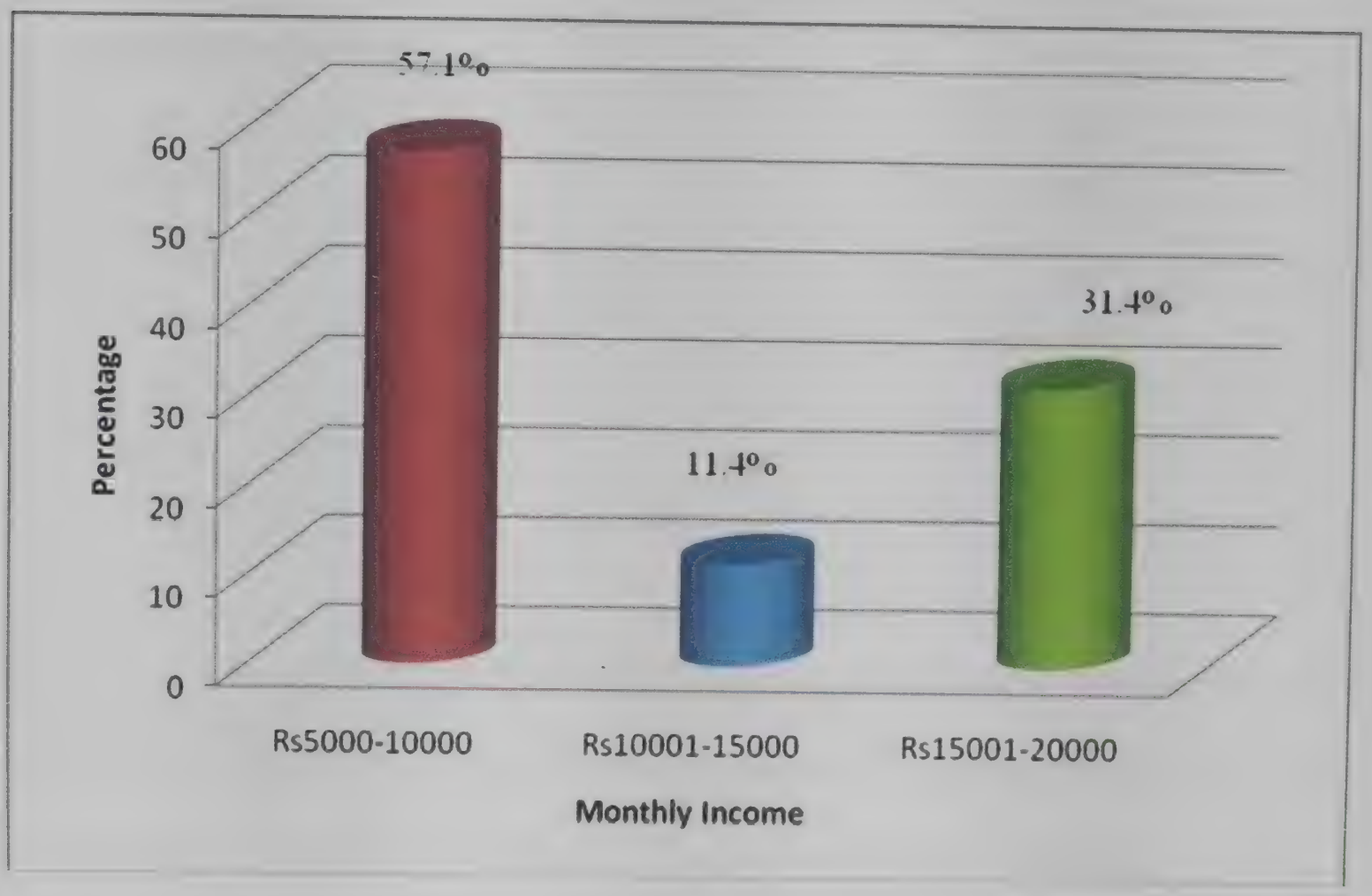


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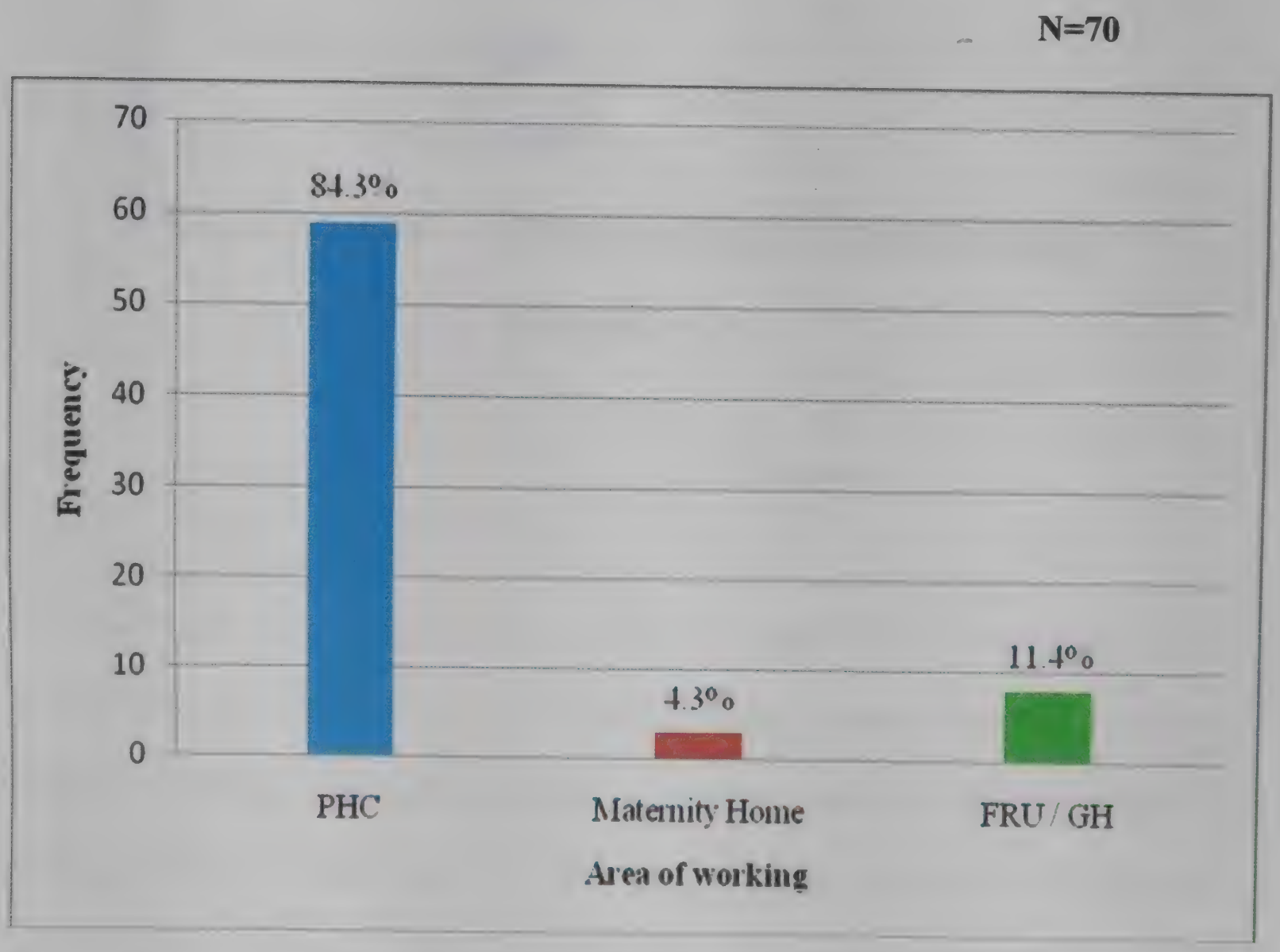
Table –1: Distribution of nurses based on professional status.

N=70

Variables	Frequency	Percentage (%)
Professional qualification		
ANM	25	35.7
Diploma in nursing	42	60.0
B.Sc.Nursing	2	2.9
Pc.B.Sc.Nursing	1	1.4
Year of experience		
1-5	29	41.4
6-10	13	18.6
11-15	9	12.9
16-20	4	5.7
21-25	5	7.1
26-30	10	14.3

The above Table - 1 show that Majority of nurses had Diploma in Nursing and ANM qualification. Most of the nurses 60% had Diploma in nursing, while 35.7% have Auxiliary nurse midwifery qualification. Only 4.3% of nurses had degree in nursing. Maximum number of nurses 41.4 % reported less than 5 years of experience.

Fig: 7 Distribution of nurses by Place of work



The above Fig -7 shows that majority of nurses 84.3% were presently working in Primary health centres and only a small number of nurses 4.3% were working in Maternity homes.

Fig: 7 Distribution of nurses by Place of work

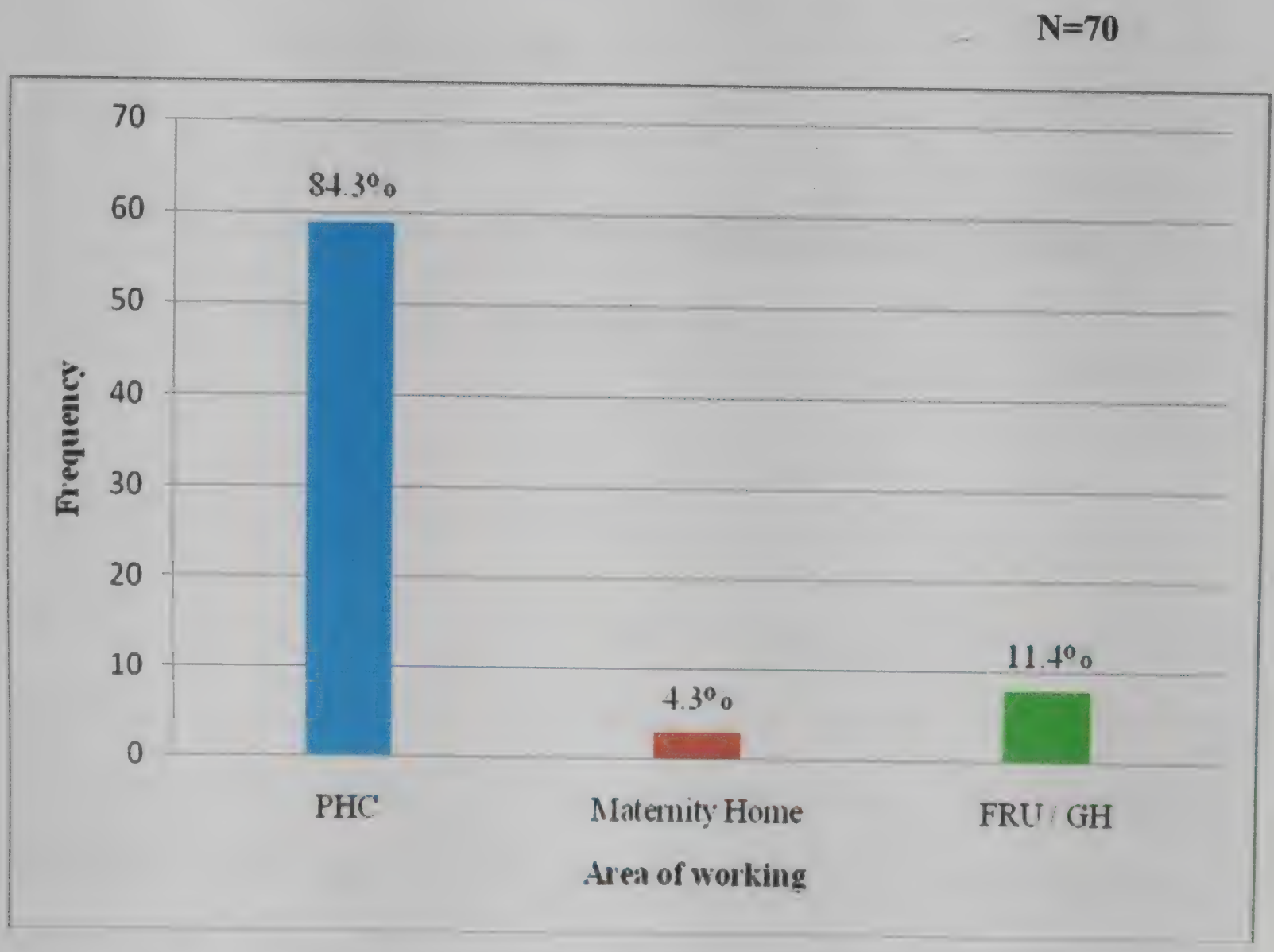


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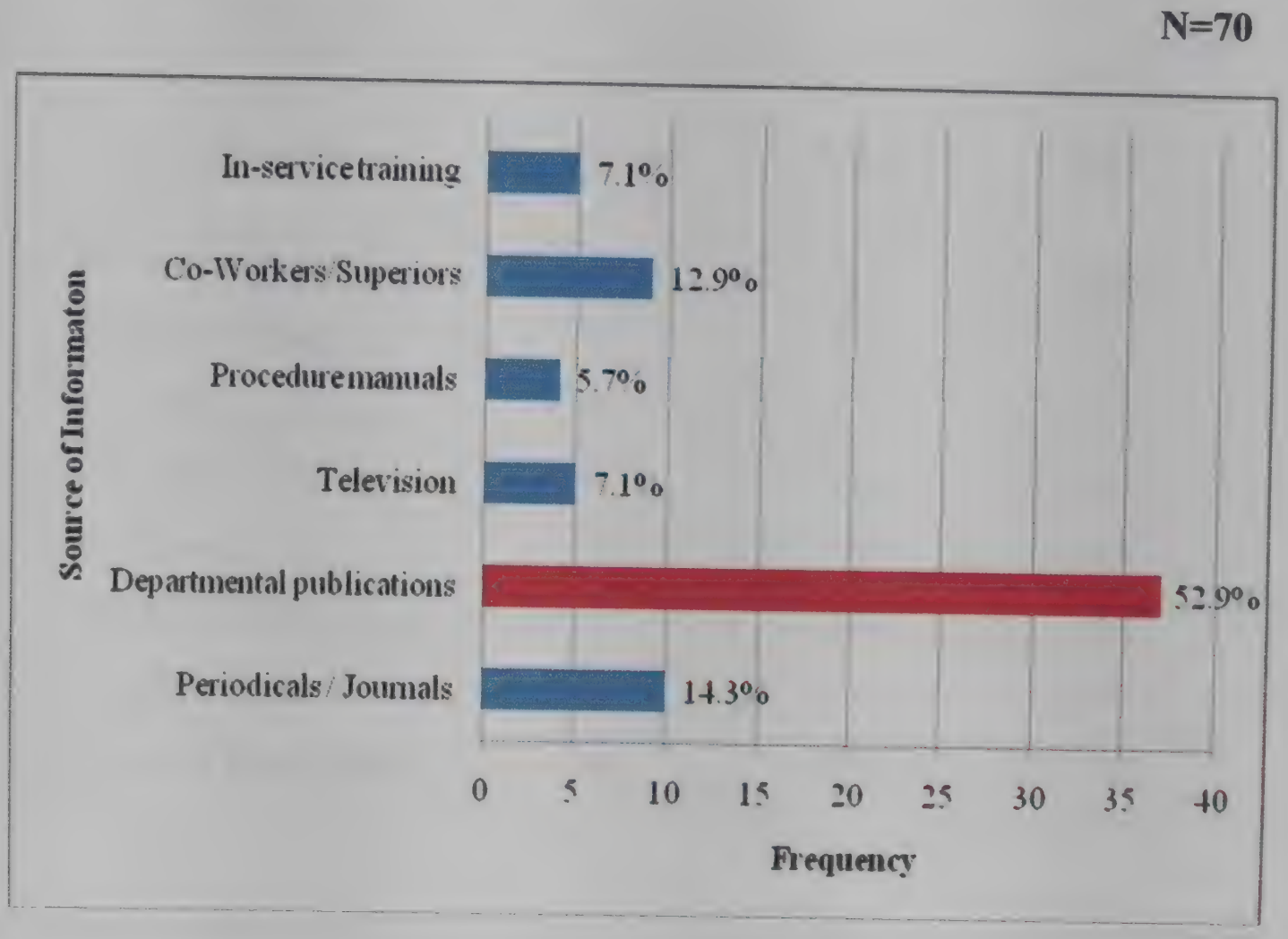
Fig: 8 Distribution of nurses by Source of information



The above Fig - 8 shows that three fourth of nurses 52.9% received information through departmental publications, remaining nurses reported that 14.3% of them received information through periodicals / journals; 12.9% nurses got information through co-workers / superiors; 7.1% through Television and In-service training and a least number of nurses 5.7% used Procedure manuals to get information on occupational safety measures.

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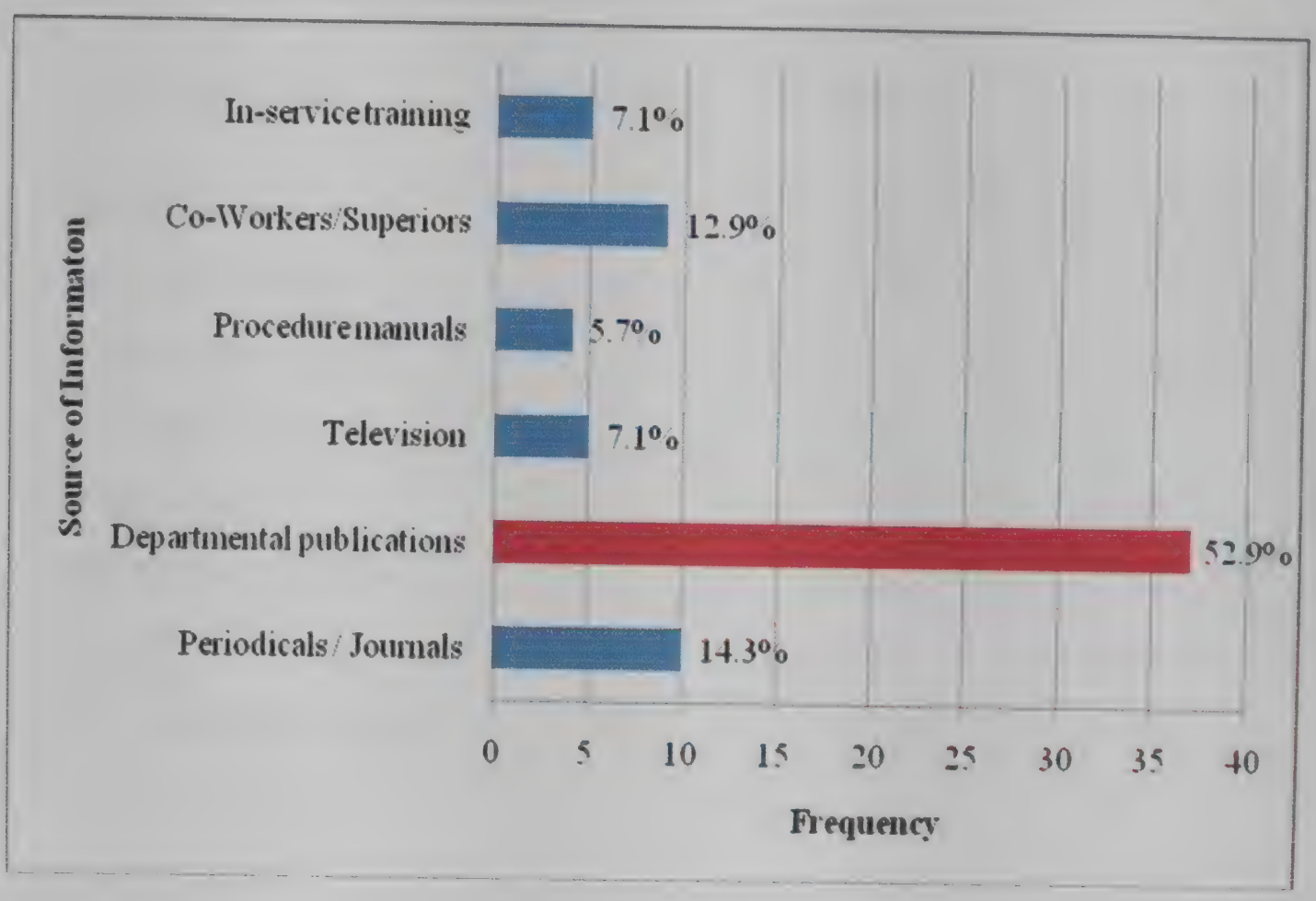

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SECTION -II: NURSES KNOWLEDGE ON OCCUPATIONAL SAFETY MEASURES.

Table - 2: Nurses pretest knowledge on occupational safety measures.

N-70

Area wise	No. of items	Mean	S.D
Basic concepts	2	0.64	0.68
Physical hazards	8	4.05	1.54
Chemical hazards	5	2.18	1.14
Biological hazards	11	4.68	1.59
Ergonomics	3	0.91	0.88
Psycho social hazards	7	3.64	1.14
Legal safe guard	4	1.60	0.93
Overall Knowledge	**40**	**17.72**	**3.50**

From the above Table –2, it is evident that the nurses had low level knowledge that is 4.68 in the area of Biological hazards and moderate level of knowledge in the pre test was 4.05 in the area of Physical hazards and 0.64 in the area of basic concepts of Occupational safety measures. The overall knowledge of the nurses regarding Occupational Safety Measures was low 17.72 in the pre test prior to teaching programme.

Table –3: Area wise knowledge level in pre test

N-70

Knowledge	Low		Moderate		High	
	Fre-quency	%	Fre-quency	%	Fre-quency	%
Basic concepts	33	47.14	29	41.43	8	11.43
Physical hazards	27	38.57	38	54.29	5	7.14
Chemical hazards	39	55.71	25	35.71	6	8.57
Biological hazards	48	68.57	22	31.43	0	0.00
Ergonomics	56	80.00	9	12.86	5	7.14
Psycho social hazards	30	42.86	36	51.43	4	5.71
Legal safe guard	35	50.00	32	45.71	3	4.29
Overall Knowledge	**49**	**70.0**	**21**	**30.0**	**0**	**0.0**

From table-3 it is observed that in the pre test maximum number of nurses had low level of knowledge regarding occupational safety measures particularly regarding Ergonomics 80%, Biological hazards 68.57% and chemical 55.71%.Moderate levels of knowledge was observed, slightly over half of the nurses regarding physical hazards and psychosocial hazards in nursing work place. A very small percentage of nurses had high level of knowledge regarding occupational safety measures in the area of physical, chemical and ergonomics in pretest.

Table-4: Distribution of post test knowledge on occupational safety measures

N=70

Area wise	No. of items	Mean	S.D
Basic concepts	2	1.52	0.63
Physical hazards	8	6.60	1.06
Chemical hazards	5	4.24	0.87
Biological hazards	11	8.55	1.59
Ergonomics	3	2.07	0.85
Psycho social hazards	7	5.74	1.84
Legal safe guard	4	2.95	0.84
Overall Knowledge	**40**	**31.70**	**3.90**

From Table – 4 demonstrates that nurses obtained high level of knowledge regarding occupational safety measures in the aspects of Basic concepts 1.52, Physical hazards 6.60, Chemical hazards 4.24, Ergonomics 2.07, Psychosocial hazards 5.74,and legal safe guard 2.95 .The overall knowledge score obtained in the post test was high 31.70 followed by Structured teaching programme on Occupational Safety Measures.

Table – 5: Area wise knowledge level in Post test

N=70

Knowledge	Low		Moderate		High	
	Fre-quency	%	Fre-quency	%	Fre-quency	%
Basic concepts	5	7.14	23	32.86	42	60.00
Physical hazards	1	1.43	30	42.86	39	55.71
Chemical hazards	4	5.71	8	11.43	58	82.86
Biological hazards	4	5.71	28	40.00	38	54.29
Ergonomics	17	24.29	28	40.00	25	35.71
Psycho social	4	5.71	22	31.43	44	62.86
Legal safe guard	3	4.29	47	67.14	20	28.57
Overall Knowledge	**0**	**00.00**	**27**	**38.60**	**43**	**61.40**

Low knowledge level =<50%

Moderate knowledge level = 50-75%

High level knowledge=75% and above

It is evident from Table-5 that in the post test majority of nurse's knowledge level was high in the area of basic concept 60%, Physical 55.71%, Chemical 82.86%. However in the area of ergonomic area knowledge was low 28.57%, moderate level knowledge 40% and high level knowledge 35.71% regarding the area of legal safe guard 67.14% moderate and 28.57% high level. More nurses had moderate level of knowledge only. This shows that structured teaching programme was effective in improving the knowledge of nurses regarding occupational safety measures.

SECTION-III

Table-6: Comparison of pre test and post test knowledge scores of nurses regarding occupational safety measures.

N=70

Aspects of knowledge	Pre test		Post test		t value	DF	P value Inference
	Mean	SD	Mean	SD			
Basic concepts	0.64	0.68	1.52	0.63	7.87	69	P<0.05*
Physical hazards	4.05	1.54	6.60	1.06	13.26	69	P<0.05*
Chemical hazards	2.18	1.14	4.24	0.87	13.06	69	P<0.05*
Biological hazards	4.68	1.59	8.55	1.59	13.66	69	P<0.05*
Ergonomics	0.91	0.88	2.07	0.85	9.03	69	P<0.05*
Psycho social hazards	3.64	1.14	5.74	1.84	8.10	69	P<0.05*
Legal safe guard	1.60	0.93	2.95	0.84	9.62	69	P<0.05*
Overall Knowledge	**17.72**	**3.50**	**31.70**	**3.90**	**29.06**	**69**	**P<0.05***

* is significant

It is evident from Table - 6 Illustrates that there was significant improvement in knowledge level of nurses in all aspect of occupational safety measures such as Basic concepts 0.64, Physical 4.05, Chemical 2.18, Biological 4.68, Ergonomics 0.91, Psychosocial 3.64, and Legal safe guard 1.60 overall post test mean knowledge score of nurses 31.70. It was higher than the overall pretest mean knowledge score 17.72 with the't' value of 29.06 and which is significant at the level of $p<0.05$. Hence it is evident that the structured teaching programme was effective in improving the knowledge of the nurses regarding occupational safety measures.

Table-7: Level of knowledge of nurses regarding OSM in the pretest and post test.

N=70

Knowledge	Low		Moderate		High	
	Frequency	%	Frequency	%	Frequency	%
Pre Test	49	70.0	21	30.0	0	0.0
Post Test	0	0.0	27	38.6	43	61.4

Low knowledge level = <50%

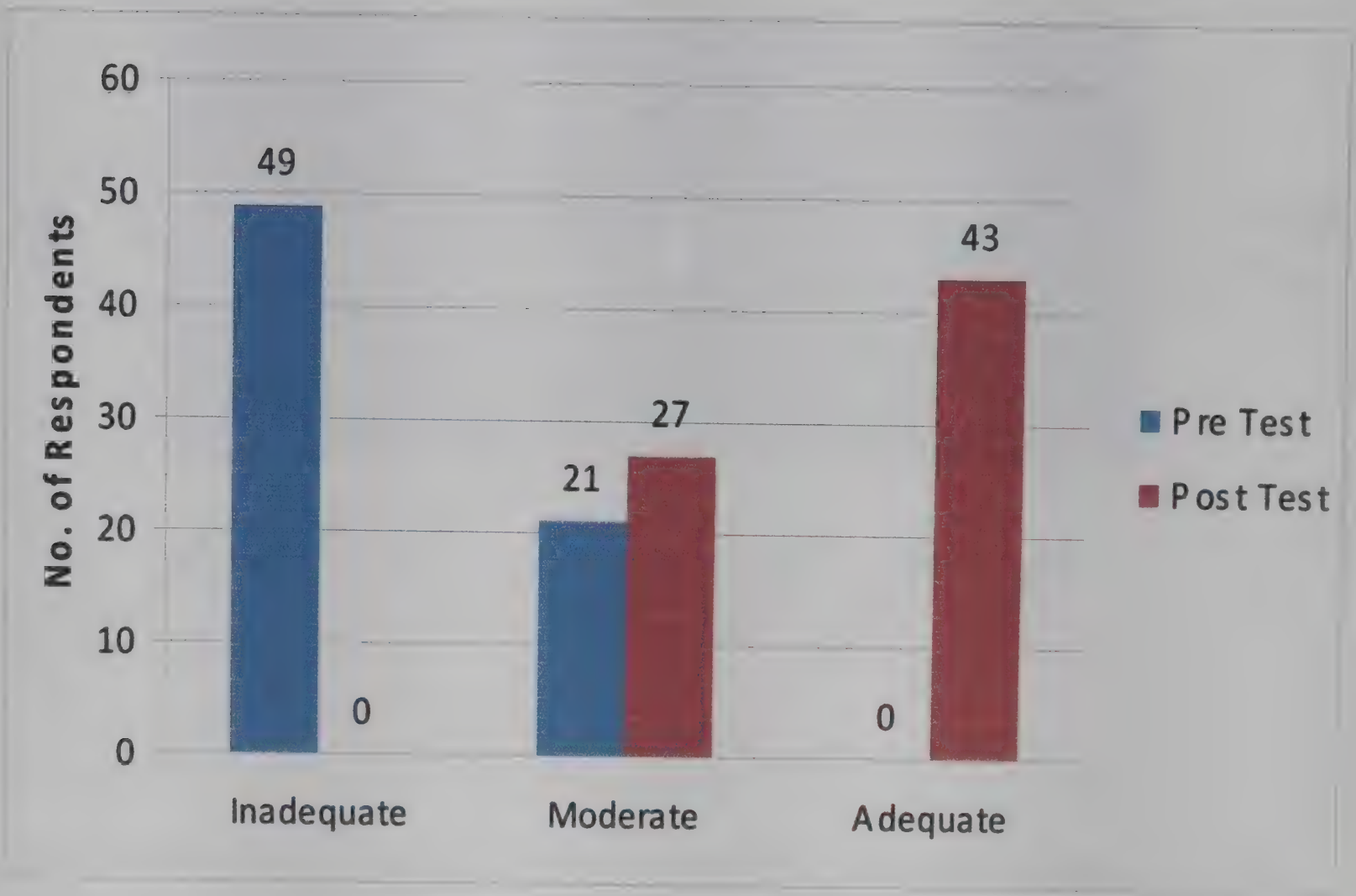
Moderate knowledge level = 50-75%

High knowledge level = >75%

From the above Table – 7, describes the level of knowledge among nurses regarding occupational safety measures in the pretest and post test. It is clear that in the pretest majority of nurses 70% had low level knowledge (<50% score), 30% of nurses had moderate level knowledge (50-75% score) regarding occupational safety measures. Where as in the posttest score more number of nurses 61.4% had high level of knowledge (>75% score) and 38.6% of subjects had moderate level of knowledge, no one belong to low level of knowledge. However following education programme had played a major role in improving their knowledge regarding occupational safety measures.

Fig: 9 Level of knowledge of nurses regarding OSM in Pre test & Post test

N=70



From Fig -10 it is evident that the majority of nurses 70% had low level knowledge (<50% score), regarding occupational safety measures. Whereas in the post test 61.4% nurses had high level of knowledge (>75% score) and 38.6% of subjects had moderate level of knowledge indicating that the STP had played a major role in improving their knowledge regarding occupational safety measures.

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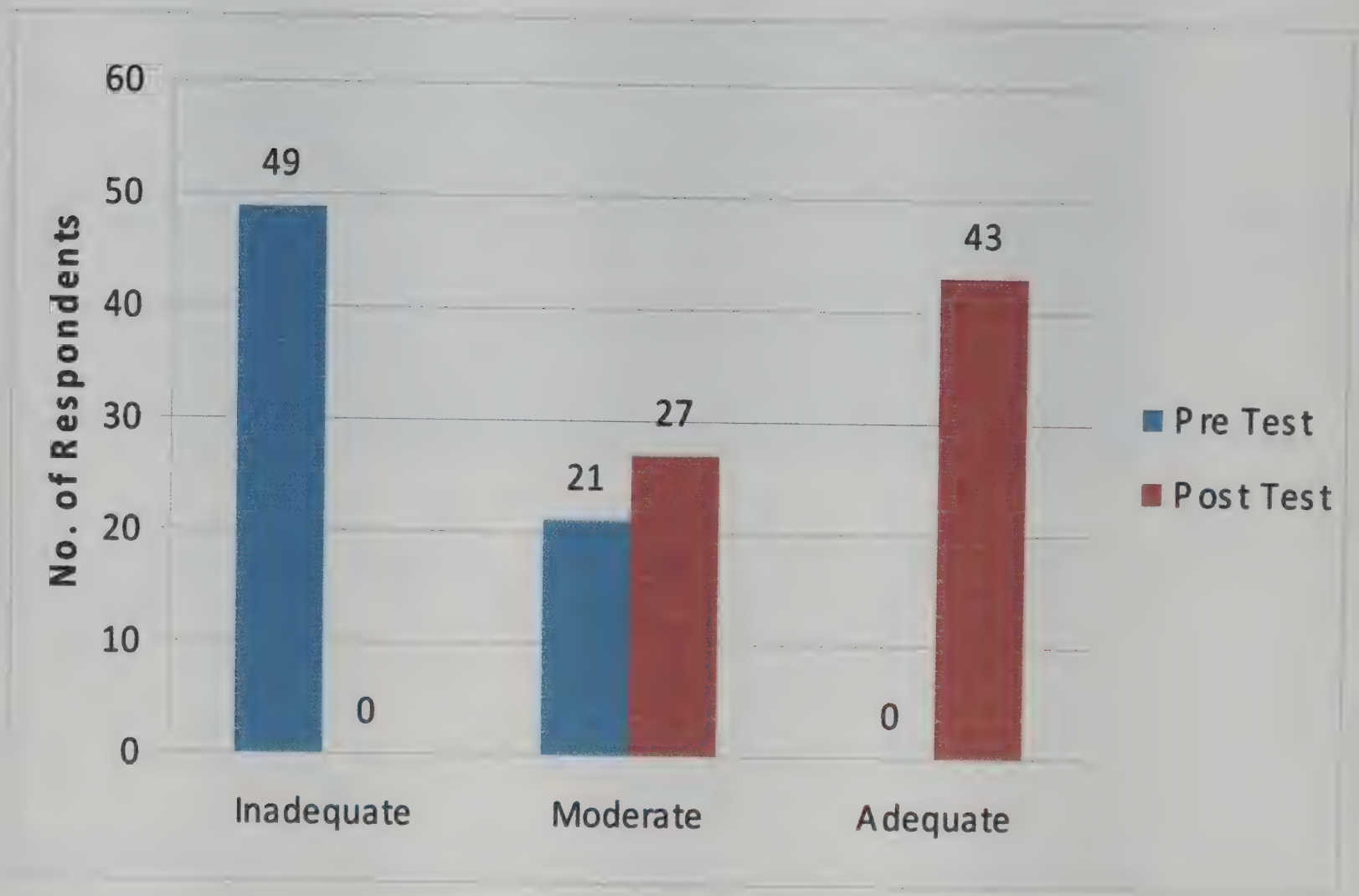

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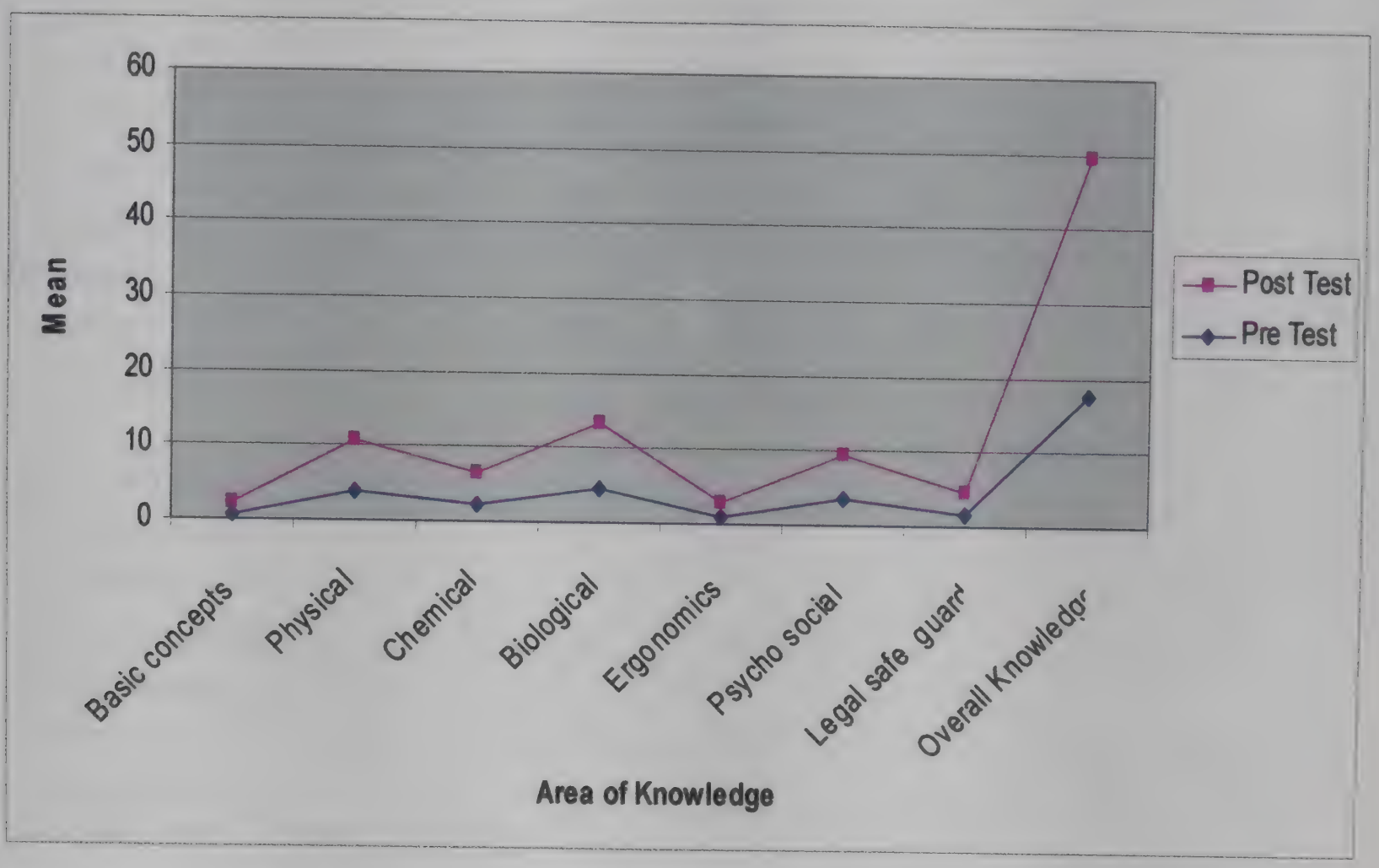
Fig: 10 Enhancement of knowledge in Post test compared to Pre test

N=70



From the above Fig 11, it is evident that the nurses had low level knowledge in all the areas of Occupational Safety Measures with overall knowledge being as low as 17.72 in the pre test before implementing the structured teaching programme. After administering the structured teaching programme, in the post test, nurses obtained high level of knowledge regarding occupational safety measures in all the areas, with the overall knowledge being high 31.70.

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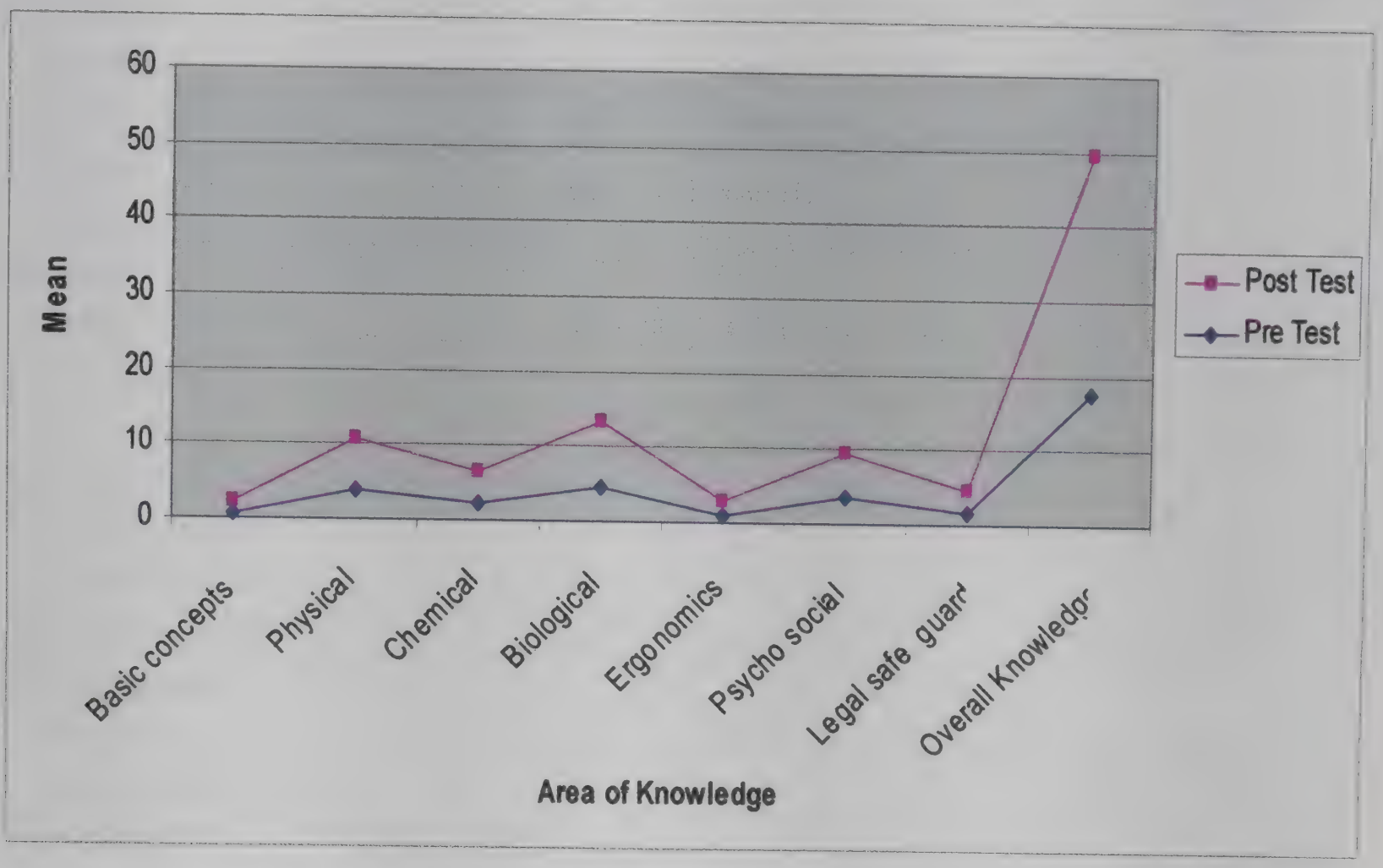

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Table – 8: Association of knowledge with demographic profile of nurses such as Age, gender, religion, monthly income and marital status.

N=70

Demographic variables	Overall Knowledge				
	Median and below(19)		Above median (19)		Chi square
	Frequency	%	Frequency	%	
Age in years					
20-30	14	36.8	14	43.8	**10.663* DF=3**
31-40	7	18.4	14	43.8	
41-50	10	26.3	3	9.4	
51-60	7	18.4	1	3.1	
Gender					
Female	38	100.0	32	100.0	
Religion					
Hindu	34	89.5	25	78.1	**1.689 NS DF=1**
Christian	4	10.5	7	21.9	
Monthly Income					
Rs5000-10000	23	60.5	17	53.1	**1.075 NS DF=2**
Rs10001-15000	5	13.2	3	9.4	
Rs15001-20000	10	26.3	12	37.5	
Marital Status					
Married	32	84.2	26	81.3	**0.107 NS DF=1**
Unmarried	6	15.8	6	18.8	

* is significant NS is not significant

From Table – 8, it is evident that the obtained chi-square values 1.68, 1.07, and 0.10 were lower than the table values at the level of $p<0.05$.Association between knowledge and demographic variables was analyzed. As an age in year is more, there was increase in the mean knowledge on occupational safety measures among nurses with 'P' value which is highly significant (<0.05). Hence it is evident that there was no significant association found between the selected demographic variables such as Religion, Monthly income and marital status of nurses with the pretest knowledge of nurses regarding occupational safety measures.

Table – 9: Association of knowledge with demographic profile of nurses such as Professional qualification, area of working, years of clinical experience and sources of information.

N-70

Demographic variables	Overall Knowledge				
	Median and below(19)		Above median (19)		Chi square
	Frequency	%	Frequency	%	
Professional qualification					
ANM	22	57.9	3	9.4	
Diploma in Nursing	16	42.1	26	81.3	**19.45* DF=3**
B.Sc Nursing	0	.0	2	6.3	
P.C.B.Sc Nursing	0	.0	1	3.1	
Area of Working					
PHC	37	97.4	22	68.8	
CHC	0	.0	0	0.0	**10.879* DF=2**
Maternity Home	0	.0	3	9.4	
FRU / GH	1	2.6	7	21.9	
Years of experience					
1-5	14	36.8	15	46.9	
6-10	4	10.5	9	28.1	
11-15	4	10.5	5	15.6	**13.050* DF=5**
16-20	2	5.3	2	6.3	
21-25	5	13.2	0	0.0	
26-30	9	23.7	1	3.1	
Source of information					
Periodicals / Journals	10	26.3	0	0.0	
Departmental publications	16	42.1	21	65.6	
Television	3	7.9	2	6.3	
Procedure manuals	2	5.3	2	6.3	**10.751 NS**
Co-Workers/Superiors	5	13.2	4	12.5	**DF=5**
C.N.E. Programme	0	0.0	0	0.0	
Work shop	0	0.0	0	0.0	
In-service training	2	5.3	3	9.4	

* is significant NS is not significant

From Table – 9, it is evident that the obtained chi-square values **10.75** was lower than the table value at the level of $p<0.05$. Hence it is evident that there is no significant association found between the sources of information with the pretest knowledge of nurses regarding occupational safety measures.

6. Discussion

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The present study was designed to assess the effectiveness of structured teaching programme on knowledge regarding Occupational safety measures nurses in selected public health settings of Bengaluru Urban. The data findings have been organized and discussed based on the study objectives.

Section I : Demographic profiles of the nurses.

Section II : Knowledge of nurses regarding Occupational safety measures in pretest.

Section III : To assess the effectiveness of the Structured Teaching Programme on Occupational safety measures.

Section IV : To find the association between pretest knowledge score with selected demographic variables of nurses.

Section I: Demographic profiles of the nurses.

The findings of the present study revealed that more nurses 40.0% were within the age group of 20 - 30 years and all nurses were females. The above findings were consistent with the study findings of **R. Rani (2006)**[68] that revealed more number of nurses 95% were within the age group of 20 to 30 years and 97% were females.

In the present study more than half of the nurses 84.3% were Hindus and the remaining nurses 15.7% were Christians. Majority of nurses 57.1% had monthly income between Rs. 5000 – 10000, while 31.4% nurses had monthly income between Rs.15001 – 20000. In the present study 82.9% nurses were married. Most of the nurses 60% had Diploma in Nursing qualification, while 35.7% were Auxiliary Nurses Midwives. The present study findings are consistent with the similar study

findings of **NL. Madhura (2003)**[74] revealed that there were greater percentage 73.3% of ANM's where as B.Sc Nurses 6.7% and GNM's 20%.

In the present study 84.3% nurses were working in PHC's. The findings also revealed that 41.4% nurses had clinical experience between 1 – 5 years, 18.6% nurses had 6 – 10 years and 14.3% nurses had 26 – 30 years of clinical experience. With respect to the source of information, half of the nurses 52.9% obtained information through departmental publications. The present study findings correspond with the study findings of **N L Madhura (2003)**[74] in which 16.6% nurses had below 5 yrs of experience, 20% had 10 to 15 yrs of experience and 10% nurses had 15 to 20 yrs of clinical experience.

Section II: Knowledge of nurses regarding Occupational safety measures in the pretest.

The overall pretest mean knowledge score obtained by the nurses was (40) 17.72% with the standard deviation of 3.50, which shows that the nurses have inadequate knowledge regarding Occupational safety measures. The present study findings were consistent with the similar study findings of **Selvi T (2006)**[76], revealed that overall pretest mean knowledge score was (20) 9.86%.

Section III: Effectiveness of the Structured Teaching Programme on Occupational safety measures by comparing the pre and post test knowledge score.

The findings of the present study revealed that the overall mean knowledge level obtained by the nurses following structure teaching programme was 31.70 in posttest which was found to be higher than the overall knowledge level 17.72 in the pretest. It was found to be statistically significant at the level of $p<0.05$.

From this finding it is evident that the structured teaching programme was effective in improving the knowledge of the nurses regarding Occupational safety measures. The present study findings are consistent with the study findings of **Selvi T (2006)**[76]; found that the overall mean knowledge level 15.36 in the posttest was greater than the overall mean knowledge level 9.86 in the pretest. Thus the research hypothesis that stated there will be significant difference between the pre and posttest knowledge score of the nurses regarding Occupational safety measures was accepted.

Section IV: Association between pretest knowledge scores with selected demographic variables of nurses.

The obtained chi-square values of variables such as religion 1.68, monthly income 1.07, marital status 0.10, and sources of information 10.75, were lower than the table values at the level of $p<0.05$ and these are consistent with the results of **Poul SM (2007)**[77] revealed no significant association between the pretest knowledge score with demographic variables. Hence the research hypothesis that stated there will be significant association between the pretest knowledge score with demographic variables of the nurses was rejected.

Where the obtained chi-square values of pretest knowledge with professional profile such as source of information 10.66, professional qualification 19.45, area of working 10.87 and years of experience 13.05. While the hypothesis that stated there will be significant association between the pretest knowledge. Hence, the hypothesis was accepted.

7. Conclusion

7. Conclusion

7. CONCLUSION

Nursing is a hazardous occupation worldwide, but little is known about workplace health and safety issues facing the nursing work force. In this study, work-related problems among a sample of nurses in selected public health settings are described. Future research should examine the work organization factors that contribute to these concerns and strengthen policies to promote health and safety.

IMPLICATIONS

The findings of the present study has integrated all components of occupational health and hence view's occupational safety measures in a holistic manner thus it has innumer practice and polices implication for nursing education, practice, administration, and research in India.

NURSING EDUCATION

1. Though nursing curriculum deals directly with concept of occupational health concept, nursing personnel seldom recognize the need for its application within the nursing practice area. Thus it becomes mandatory to familiarize and orient various personnel from nursing students to novice nurses regarding occupational safety measures through educational and field of practice during clinical experience.
2. Beginning with nurses novices to experts as well. There is a dire need for continued education programmes particularly dealing with occupational health and occupational safety measures due to the very complex and dynamic nature of the work settings.

3. Nurse educators can play a major role as nursing curriculum deals with handling out break of infectious diseases and disasters. However much scope is present for the application of these epidemiological principles to not only in control or prevention among population at risk but also among the nursing workforce themselves.
4. For the student nurses it can become a mandatory step in the practice of imparting care to clients to practice self care by adapting standard precaution, use of protective personal equipment, receive vaccination and practice ergonomics. Assertiveness training, stress management technique's, and hardiness training in the student period for a nurses will go a long way in preventing long term psychosocial problem and facilitate dealing effectively with undue occupational stressors at work place.

NURSING PRACTICE

1. Nursing professionals must themselves become advocates for healthy work place with in the various nursing care settings. Nurse educators play a key role in changing the healthy attitude and behavior of the nurses towards practice of occupational safety measures, health hazards and prevention and thereby improve standard of care for patients..
2. Nurses who practice in the clinical area should mandatorily adopt occupational safety measures.
3. There must be a healthy atmosphere for nurses to discuss their problems, true spirit of collegiality, collective bargaining to empower nursing workforce for a positive work place.

NURSING ADMINISTRATION

1. The nursing administrator must actively develop protocols, standing orders related to occupational safety programmes and aggressively employ strategies for nurses who are at risk of exposure to occupational hazards.
2. The nurse administrators must enable nursing workforce with positive work environment by providing adequate supplies and materials for safe practice of nursing care.
3. The nurse administrator should foster a stress-free work environment by providing effective communication, stress management programme, periodical risk assessment and guide suitable action on regular basis. Plan, implement and evaluate on occupational safety measures for nurses.

NURSING RESEARCH

1. This study provides insight into viewing holistically various aspects of occupational safety measures to develop an integrated strategy for the development of a positive work environment for nurses based on evidence from ICN and other agencies.
2. Research is essential in the area of occupational environment in nursing and in varied settings, development of occupational safety measures, occupational health programme to evaluate occupational health programme study impact of policies relevant to occupational safety measures and occupational health among nurses.

LIMITATIONS

1. The study is limited to nurses working only at public health settings, Bengaluru urban district.

2. Extraneous variables like exposure to media, learning in working environment, peer contact, were could not be studied.
3. The study did not use any control group. Hence, there are possibilities of threats to internal validity like events occurring between pre test and post test.

RECOMMENDATIONS

1. An in depth study can be replicated on a large sample to generalize the findings.
2. A cross sectional study can be conducted across the setting to assess the occupational safety measures.
3. A comparative study can be conducted to assess the knowledge, attitude and practice regarding occupational safety measures among nurses working in public health setting and private health settings.
4. Experimental studies to know the effectiveness of various occupational safety programmes among nurses can be undertaken.
4. Compare the impact of positive work environment for nurses on quality of patient care and patient out come in settings that best practices.

8. Summary

8. Summary

8. SUMMARY

This chapter deals with the summary of the study findings and conclusion. The primary aim of the study is to assess the effectiveness of structured teaching programme on knowledge regarding Occupational safety measures among nurses working in selected public health settings of Bengaluru urban.

Objectives

1. To assess the knowledge of nurses regarding Occupational safety measures by pretest knowledge score.
2. To administer Structured Teaching Programme on Occupational safety measures among Nurses.
3. To assess the effectiveness of the Structured Teaching Programme on Occupational safety measures by comparing the pre and post test knowledge score.
4. To find the association between pretest knowledge score with selected demographic variables.

Hypotheses

H_1: There will be significant difference between pre and posttest knowledge scores of nurses regarding Occupational safety measures.

H_2: There will be significant association between knowledge score with selected demographic profiles of the nurses.

The modified conceptual framework for the present study is based on Betty Neuman's systems theory. The research approach selected for the study was evaluative with one group pretest-posttest pre experimental design. The study samples of seventy nurses were selected based on the purposive sampling technique from

selected public health settings of Bengaluru urban. A valid and reliable tool was developed to collect data, namely structured knowledge questionnaire on occupational safety measures, which consists of two parts. Part I consists of the demographic profile of nurses and Part II consists of knowledge questionnaire.

MAJOR FINDINGS OF THE STUDY

Demographic Profiles

The findings of the present study revealed that most of the nurses 40.0% were in the age group of 20 - 30 years and all nurses were females. Majority of the nurses 84.3% were Hindus and the remaining nurses 15.7% were Christians. More than half of the nurses 57.1% had monthly income between Rs. 5000 – 10000, while 31.4% nurses had monthly income between Rs. 15001 – 20000.

Majority of nurses 82.9 were married. More number of nurses 60% had Diploma in Nursing qualification, while 35.7% were Auxiliary Nurses Midwives. 84.3% nurses were working in PHC's. The findings also revealed that 41.4% nurses had clinical experience between 1 – 5 years, 18.6% nurses had 6 – 10 years and few nurses 14.3% had 26 – 30 years of clinical experience. With respect to the source of information, most of the nurses 52.9% got information through departmental publications.

Pre and posttest knowledge scores

The overall pretest knowledge score obtained by the nurses was 17.72 and the overall posttest knowledge of occupational safety measures of the nurses was 31.70. Thus, the structured teaching programme was effective in increasing the knowledge level of nurses.

Effectiveness of structured teaching programme

The study findings after the intervention, the overall mean posttest knowledge score obtained by the nurses was 31.70, where as the overall pretest knowledge score was 17.72. It was found to be statistically significant at the level of $p<0.05$. Hence the research hypothesis stated that there will be significant difference between the pre and posttest knowledge scores of the nurses regarding Occupational safety measures was accepted and it was evident that the structured teaching programme on Occupational safety measures was effective in increasing the knowledge of the nurses.

Association between selected demographic variables with pretest knowledge of the nurses.

The obtained chi-square values were lower than the table values at the level of $p<0.05$. Hence, there is no significant association between the pretest knowledge score with selected demographic variables of the nurses such as religion 1.68, monthly income 1.07, marital status 0.10 and sources of information 10.75.

Whereas the chi-square values were higher than the table values at the level of $p<0.05$. Hence the hypothesis stated that there will be significant association between the pre test knowledge score with selected demographic variables such as age 10.66, professional qualification 19.45, area of working 10.87 and years of experience 13.05 was accepted.

9. Bibliography

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9. BIBLIOGRAPHY

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10. Annexure

10. Annexure

ANNEXURE –I

ಕರ್ನಾಟಕ ಸರ್ಕಾರ
ಜಿಲ್ಲಾ ಪಂಚಾಯತ್ , ಬೆಂಗಳೂರು ನಗರ ಜಿಲ್ಲೆ.

ಸಂಖ್ಯೆ: ಅಧಿವೃದ್ಧಿ/2/2008–09.

ಜಿಲ್ಲಾ ಆರೋಗ್ಯ ಮತ್ತು ಕು.ಕ.ಅಧಿಕಾರಿಗಳ ಕಚೇರಿ,
ಬೆಂಗಳೂರು ನಗರ ಜಿಲ್ಲೆ ,
ಸಾಂಕ್ರಾಮಿಕ ರೋಗಗಳ ಆಸ್ಪತ್ರೆ ಆವರಣ, ಹಳೇ
ಮದ್ರಾಸ್ ರಸ್ತೆ, ಇಂದಿರಾನಗರ, ಬೆಂಗಳೂರು–38
ದಿನಾಂಕ:15/09/08 ದೂ: 080–25566844.

ಸೇವೆಗೆ,
ಪ್ರಾಂಶುಪಾಲರು,
ಕ್ಷಫರ್ಡ್ ಕಾಲೇಜ್ ಆಫ್ ನರ್ಸಿಂಗ್,
ಂಗಳೂರು.

ಮಾನ್ಯರೆ,

ವಿಷಯ:– ಶ್ರೀಮತಿ ಹೆಚ್.ಎ. ಹೇಮಾವತಿ, ಎಂ.ಎಸ್.ಸಿ. ನರ್ಸಿಂಗ್ ವ್ಯಾಸಂಗಕ್ಕಾಗಿ ಪ್ರಾಥ
ಕೇಂದ್ರದ ಹೆ.ಕೇ/ಸಾ.ಆ./ಸ.ಆ.ಕೇಂದ್ರಗಳ ವ್ಯಾಪ್ತಿಯಲ್ಲಿ ಅನುಮತಿ ನೀಡುವ ಬಗ್ಗೆ–
ಉಲ್ಲೇಖ:–ತಮ್ಮ ಪತ್ರ ದಿನಾಂಕ: 12–09–2008.

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ಶ್ರೀಮತಿ. ಹೆಚ್.ಎ. ಹೇಮಾವತಿ, ಎಂ.ಎಸ್.ಸಿ. ನರ್ಸಿಂಗ್ ವ್ಯಾಸಂಗಕ್ಕಾಗಿ ಪ್ರಾಥಕೇಂದ್ರದ
ಸಾ.ಆ.ಕೇಂದ್ರ/ಸ.ಆ.ಕೇಂದ್ರಗಳಲ್ಲಿ ಕೆಲಸ ಮಾಡುತ್ತಿರುವ ಪುರ್ಪ್ರಾಥಮಿಯಿರ ಆರೋಗ್ಯ ಕಾರ್ಯಕರ್ತರ
ರೋಗ್ಯ ಸ್ಥಿತಿ, ಆರೋಗ್ಯಕಾರಕ ಜೀವನ ಶೈಲಿ ಮತ್ತು ವೃತ್ತಿ ಸುರಕ್ಷತೆಯ ಬಗ್ಗೆ ಜ್ಞಾನ ಮತ್ತು ತಿಳುವಳಿಕೆ
ಂಗಳೂರು ನಗರ ಜಿಲ್ಲೆಯ ವ್ಯಾಪ್ತಿಯಲ್ಲಿ ಅನುಮತಿ ನೀಡುವಂತೆ ಉಲ್ಲೇಖಿತ ಪತ್ರದಲ್ಲಿ ಕೋರಿರುವುದು
ವಿಷಯವಾಗಿದೆ.

ಉಲ್ಲೇಖಿತ ಪತ್ರವನ್ನು ಪರಿಶೀಲಿಸಿ, ಶ್ರೀಮತಿ. ಹೆಚ್.ಎ.ಹೇಮಾವತಿಯವರ ವ್ಯಾಸಂಗದ
ಉದ್ದೇಶದಿಂದ ಬೆಂಗಳೂರು ನಗರ ಜಿಲ್ಲೆಯ ವ್ಯಾಪ್ತಿಯಲ್ಲಿ ಬರುವ ಪ್ರಾಥಮಿಕ ಆರೋಗ್ಯ ಕೇಂದ್ರ/ಹೆರಿಗೆ
ಕೇಂದ್ರ, ಸಮುದಾಯಿ ಆರೋಗ್ಯ ಕೇಂದ್ರಗಳು ಮತ್ತು ಸಾರ್ವಜನಿಕ ಆಸ್ಪತ್ರೆಗಳಲ್ಲಿ ವ್ಯಾಸಂಗಕ್ಕಾಗಿ ಅನುಮತಿ
ನೀಡಲಾಗಿದೆ.

ತಮ್ಮ ನಂಬುಗೆಯ,

District Health and F.W. Officer
Bangalore Urban Districts,
Hospital Compound
Old Madras Road, Bangalore-38

ಪ್ರತಿಯನ್ನು ಆಡಳಿತ ವೈದ್ಯಾಧಿಕಾರಿಗಳು, ಸಾರ್ವಜನಿಕ ಆಸ್ಪತ್ರೆ, ಸಾ.ಆ.ಕೇಂದ್ರ / ಹೆರಿಗೆ ಕೇಂದ್ರ
ಪ್ರಾಥಕೇಂದ್ರಗಳವರ ಮಾಹಿತಿಗಾಗಿ ಹಾಗೂ ಮುಂದಿನ ಕ್ರಮಕ್ಕಾಗಿ.

ಕರ್ನಾಟಕ ಸರ್ಕಾರ

ಜಿಲ್ಲಾ ಪಂಚಾಯತ್ . ಬೆಂಗಳೂರು ನಗರ ಜಿಲ್ಲೆ.

ಸಂಖ್ಯೆ: ಅಭಿವೃದ್ಧಿ/2/2008–09.

ಜಿಲ್ಲಾ ಆರೋಗ್ಯ ಮತ್ತು ಕು.ಕ.ಅಧಿಕಾರಿಗಳ ಕಚೇರಿ,
ಬೆಂಗಳೂರು ನಗರ ಜಿಲ್ಲೆ ,
ಸಾಂಕ್ರಾಮಿಕ ರೋಗಗಳ ಆಸ್ಪತ್ರೆ ಆವರಣ, ಹಳೇ
ಮದ್ರಾಸ್ ರಸ್ತೆ, ಇಂದಿರಾನಗರ, ಬೆಂಗಳೂರು–38
ದಿನಾಂಕ:15/09/08 ದೂ: 080–25566844.

ರವರಿಗೆ,
ಪ್ರಾಂಶುಪಾಲರು,
ಆಕ್ಸಫರ್ಡ್ ಕಾಲೇಜ್ ಆಫ್ ನರ್ಸಿಂಗ್,
ಬೆಂಗಳೂರು.

ಮಾನ್ಯರೆ,

ವಿಷಯ:– ಶ್ರೀಮತಿ.ಹೆಚ್.ಪಿ. ಹೇಮಾವತಿ, ಎಂ.ಎಸ್.ಸಿ. ನರ್ಸಿಂಗ್ ವ್ಯಾಸಂಗಕ್ಕಾಗಿ ಪ್ರಾಆ ಕೇಂದ್ರದ ಹೆ.ಕೇ/ಸಾ.ಆ./ಸ.ಆ.ಕೇಂದ್ರಗಳ ವ್ಯಾಪ್ತಿಯಲ್ಲಿ ಅನುಮತಿ ನೀಡುವ ಬಗ್ಗೆ–
ಉಲ್ಲೇಖ:–ತಮ್ಮ ಪತ್ರ ದಿನಾಂಕ: 12–09–2008.

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ಶ್ರೀಮತಿ. ಹೆಚ್.ಪಿ. ಹೇಮಾವತಿ, ಎಂ.ಎಸ್.ಸಿ. ನರ್ಸಿಂಗ್ ವ್ಯಾಸಂಗಕ್ಕಾಗಿ ಪ್ರಾಆಕೇಂದ್ರದ ಹೆ.ಕೇ/ಸಾ.ಆ./ಸ.ಆ.ಕೇಂದ್ರಗಳಲ್ಲಿ ಕೆಲಸ ಮಾಡುತ್ತಿರುವ ಶುಶ್ರೂಷಕಿಯರ ಆರೋಗ್ಯ ಕಾರ್ಯಕರ್ತರ ಆರೋಗ್ಯ ಸ್ಥಿತಿ. ಆರೋಗ್ಯಕಾರಕ ಜೀವನ ಶೈಲಿ ಮತ್ತು ವೃತ್ತಿ ಸುರಕ್ಷತೆಯ ಬಗ್ಗೆ ಜ್ಞಾನ ಮತ್ತು ತಿಳುವಳಿಕೆ ಬೆಂಗಳೂರು ನಗರ ಜಿಲ್ಲೆಯ ವ್ಯಾಪ್ತಿಯಲ್ಲಿ ಅನುಮತಿ ನೀಡುವಂತೆ ಉಲ್ಲೇಖಿತ ಪತ್ರದಲ್ಲಿ ಕೋರಿರುವುದು ಸರಿಯಷ್ಟೆ.

ಉಲ್ಲೇಖಿತ ಪತ್ರವನ್ನು ಪರಿಶೀಲಿಸಿ. ಶ್ರೀಮತಿ. ಹೆಚ್.ಪಿ.ಹೇಮಾವತಿರವರ ವ್ಯಾಸಂಗದ ಹಿತದೃಷ್ಟಿಯಿಂದ ಬೆಂಗಳೂರು ನಗರ ಜಿಲ್ಲೆಯ ವ್ಯಾಪ್ತಿಯಲ್ಲಿ ಬರುವ ಪ್ರಾಥಮಿಕ ಆರೋಗ್ಯ ಕೇಂದ್ರ/ಹೆರಿಗೆ ಕೇಂದ್ರ, ಸಮುದಾಯ ಆರೋಗ್ಯ ಕೇಂದ್ರಗಳು ಮತ್ತು ಸಾರ್ವಜನಿಕ ಆಸ್ಪತ್ರೆಗಳಲ್ಲಿ ವ್ಯಾಸಂಗಕ್ಕಾಗಿ ಅನುಮತಿ ನೀಡಲಾಗಿದೆ.

ತಮ್ಮ ನಂಬುಗೆಯ,

District Health and Family Welfare Officer
ಜಿಲ್ಲಾ ಆರೋಗ್ಯ ಮತ್ತು ಕುಟುಂಬ ಕಲ್ಯಾಣ ಅಧಿಕಾರಿಗಳು.
Bangalore Urban District
Communicable Diseases Hospital Premises
Old Madras Road, Bangalore-38

ಪ್ರತಿಯನ್ನು ಆಡಳಿತ ವೈದ್ಯಾಧಿಕಾರಿಗಳು, ಸಾರ್ವಜನಿಕ ಆಸ್ಪತ್ರೆ, ಸಾ.ಆ.ಕೇಂದ್ರ / ಹೆರಿಗೆ ಕೇಂದ್ರ, ಪ್ರಾಆಕೇಂದ್ರದವರ ಮಾಹಿತಿಗಾಗಿ ಹಾಗೂ ಮುಂದಿನ ಕ್ರಮಕ್ಕಾಗಿ.

ಕರ್ನಾಟಕ ಸರ್ಕಾರ

ಜಿಲ್ಲಾ ಪಂಚಾಯತ್, ಬೆಂಗಳೂರು ನಗರ ಜಿಲ್ಲೆ.

ಇಂದ,

ದಿನಾಂಕ: 4/08/2009.
ಬೆಂಗಳೂರು.

ಆರ್. ಸಿ. ಹೆಚ್ ಅಧಿಕಾರಿಗಳು
ಬೆಂಗಳೂರು ನಗರ ಜಿಲ್ಲೆ
ಬೆಂಗಳೂರು.

ರವರಿಗೆ,

ಪ್ರಾಂಶುಪಾಲರು
ದಿ ಆಕ್ಸ್‌ಫರ್ಡ್ ಕಾಲೇಜ್ ಆಫ್ ನರ್ಸಿಂಗ್
ಬೆಂಗಳೂರು.

ಮಾನ್ಯರೇ,

ವಿಷಯ: ಸಂಖ್ಯೆ: ಅಭಿವೃದ್ಧಿ /2/2008-09 ರ ಆಧಾರದ ಮೇರೆಗೆ ಶ್ರೀಮತಿ. ಹೆಚ್.ಪಿ. ಹೇಮಾವತಿ ಎಂ.ಎಸ್ಸಿ. ನರ್ಸಿಂಗ್ ವ್ಯಾಸಂಗದ ಪ್ರಯುಕ್ತ ವೃತ್ತಿಪರ ಶಿಕ್ಷಣ ನೀಡಲು ಪ್ರಾ. ಆ. ಕೇಂದ್ರ, ಹೆರಿಗೆ ಆಸ್ಪತ್ರೆ / ಸ.ಆ. ಕೇಂದ್ರಗಳ ವ್ಯಾಪ್ತಿಯಲ್ಲಿ ಅನುಮತಿ ನೀಡುವ ಬಗ್ಗೆ.

*****

ಮೇಲಿನ ವಿಷಯಕ್ಕೆ ಸಂಬಂಧಿಸಿದಂತೆ, ಶ್ರೀಮತಿ. ಹೆಚ್.ಪಿ. ಹೇಮಾವತಿ ಎಂ.ಎಸ್ಸಿ. ನರ್ಸಿಂಗ್ ವ್ಯಾಸಂಗಕ್ಕಾಗಿ ಮೇಲೆ ತಿಳಿಸಿದ ಆರೋಗ್ಯ ಕೇಂದ್ರಗಳಲ್ಲಿ ಕೆಲಸ ನಿರ್ವಹಿಸುತ್ತಿರುವ "ಶುಶ್ರೂಷಕಿಯರ ವೃತ್ತಿ ಸುರಕ್ಷತೆಯ ಬಗ್ಗೆ ಜ್ಞಾನ" ಇದರ ಬಗ್ಗೆ ವೃತ್ತಿಪರ ಶಿಕ್ಷಣ ನೀಡಲು ಜಿಲ್ಲಾ ಆರೋಗ್ಯ ಮತ್ತು ಕುಟುಂಬ ಕಲ್ಯಾಣ ಅಧಿಕಾರಿಗಳು ಅನುಮತಿ ನೀಡಿದ್ದು ಇದರ ಆಧಾರದ ಮೇಲೆ ಅವರ ವ್ಯಾಸಂಗಕ್ಕೆ ಅನುಕೂಲವಾಗುವಂತೆ ದಿನಾಂಕ **10/09/2009** ರಂದು **24/7** ರ ವ್ಯವಸ್ಥೆಯಡಿಯಲ್ಲಿ ಬರುವ ಆರೋಗ್ಯ ಕೇಂದ್ರಗಳ ತಿಂಗಳ ಸಭೆಯಲ್ಲಿ ಅಪರಾಹ್ನ **12** ಗಂಟೆಯಿಂದ **4** ಗಂಟೆಯವರೆಗೆ (4 ಗಂಟೆಗಳು) ಹಾಗೂ ದಿನಾಂಕ **18/09/2009** ರ ಪೂರ್ವಾಹ್ನ **10** ಗಂಟೆಯಿಂದ **11** ಗಂಟೆಯವರೆಗೆ ಶುಶ್ರೂಷಕಿಯರಿಂದ ಮಾಹಿತಿ ಪಡೆಯಲು ಅನುಮತಿ ನೀಡಲಾಗಿದೆ.

ವಂದನೆಗಳೊಂದಿಗೆ

N.M. Rathnesh

ಆರ್. ಸಿ. ಹೆಚ್ ಅಧಿಕಾರಿಗಳು
ಬೆಂಗಳೂರು ನಗರ ಜಿಲ್ಲೆ
ಬೆಂಗಳೂರು.

DISTRICT R.C.H. OFFICER
BANGALORE URBAN DISTRICT
BANGALORE

ಕರ್ನಾಟಕ ಸರ್ಕಾರ
ಜಿಲ್ಲಾ ಪಂಚಾಯತ್ . ಬೆಂಗಳೂರು ನಗರ ಜಿಲ್ಲೆ.

ಸಂಖ್ಯೆ: ಅಭಿವೃದ್ಧಿ/2/2008–09.

ಜಿಲ್ಲಾ ಆರೋಗ್ಯ ಮತ್ತು ಕು.ಕ.ಅಧಿಕಾರಿಗಳ ಕಚೇರಿ,
ಬೆಂಗಳೂರು ನಗರ ಜಿಲ್ಲೆ ,
ಸಾಂಕ್ರಾಮಿಕ ರೋಗಗಳ ಆಸ್ಪತ್ರೆ ಆವರಣ, ಹಳೇ
ಮದ್ರಾಸ್ ರಸ್ತೆ, ಇಂದಿರಾನಗರ, ಬೆಂಗಳೂರು–38
ದಿನಾಂಕ:15/09/08 ದೂ: 080–25566844.

ರವರಿಗೆ,
ಪ್ರಾಂಶುಪಾಲರು,
ಆಕ್ಸಫರ್ಡ್ ಕಾಲೇಜ್ ಆಫ್ ನರ್ಸಿಂಗ್,
ಬೆಂಗಳೂರು.

ಮಾನ್ಯರೆ,

ವಿಷಯ:– ಶ್ರೀಮತಿ.ಹೆಚ್.ಪಿ. ಹೇಮಾವತಿ, ಎಂ.ಎಸ್.ಸಿ. ನರ್ಸಿಂಗ್ ವ್ಯಾಸಂಗಕ್ಕಾಗಿ ಪ್ರಾಆ ಕೇಂದ್ರದ ಹೆ.ಕೇ/ಸಾ.ಆ./ಸ.ಆ.ಕೇಂದ್ರಗಳ ವ್ಯಾಪ್ತಿಯಲ್ಲಿ ಅನುಮತಿ ನೀಡುವ ಬಗ್ಗೆ–

ಉಲ್ಲೇಖ:–ತಮ್ಮ ಪತ್ರ ದಿನಾಂಕ: 12–09–2008.

***

ಶ್ರೀಮತಿ. ಹೆಚ್.ಪಿ. ಹೇಮಾವತಿ, ಎಂ.ಎಸ್.ಸಿ. ನರ್ಸಿಂಗ್ ವ್ಯಾಸಂಗಕ್ಕಾಗಿ ಪ್ರಾಆಕೇಂದ್ರದ ಹೆ.ಕೇ/ಸಾ.ಆ./ಸ.ಆ.ಕೇಂದ್ರಗಳಲ್ಲಿ ಕೆಲಸ ಮಾಡುತ್ತಿರುವ ಶುಶ್ರೂಷಕಿಯರ ಆರೋಗ್ಯ ಕಾರ್ಯಕರ್ತರ [illegible] ವೃತ್ತಿ ಸುರಕ್ಷತೆಯ ಬಗ್ಗೆ ಜ್ಞಾನ ಮತ್ತು [illegible] ಬೆಂಗಳೂರು ನಗರ ಜಿಲ್ಲೆಯ ವ್ಯಾಪ್ತಿಯಲ್ಲಿ ಅನುಮತಿ ನೀಡುವಂತೆ ಉಲ್ಲೇಖಿತ ಪತ್ರದಲ್ಲಿ ಕೋರಿರುವುದು ಸರಿಯಷ್ಟೆ.

ಉಲ್ಲೇಖಿತ ಪತ್ರವನ್ನು ಪರಿಶೀಲಿಸಿ, ಶ್ರೀಮತಿ. ಹೆಚ್.ಪಿ.ಹೇಮಾವತಿರವರ ವ್ಯಾಸಂಗದ ಹಿತದೃಷ್ಟಿಯಿಂದ ಬೆಂಗಳೂರು ನಗರ ಜಿಲ್ಲೆಯ ವ್ಯಾಪ್ತಿಯಲ್ಲಿ ಬರುವ ಪ್ರಾಥಮಿಕ ಆರೋಗ್ಯ ಕೇಂದ್ರ/ಹೆರಿಗೆ ಕೇಂದ್ರ, ಸಮುದಾಯ ಆರೋಗ್ಯ ಕೇಂದ್ರಗಳು ಮತ್ತು ಸಾರ್ವಜನಿಕ ಆಸ್ಪತ್ರೆಗಳಲ್ಲಿ ವ್ಯಾಸಂಗಕ್ಕಾಗಿ ಅನುಮತಿ ನೀಡಲಾಗಿದೆ.

ತಮ್ಮ ನಂಬುಗೆಯ,

District Health and [illegible] Officer
ಜಿಲ್ಲಾ ಆರೋಗ್ಯ ಮತ್ತು [illegible] ಅಧಿಕಾರಿಗಳು.
Bangalore Urban District
ಬೆಂಗಳೂರು ನಗರ ಜಿಲ್ಲೆ
[illegible] Hospital Compound
Old Madras Road, Bangalore-38

ಪ್ರತಿಯನ್ನು ಆಡಳಿತ ವೈದ್ಯಾಧಿಕಾರಿಗಳು, ಸಾರ್ವಜನಿಕ ಆಸ್ಪತ್ರೆ, ಸಾ.ಆ.ಕೇಂದ್ರ / ಹೆರಿಗೆ ಕೇಂದ್ರ, ಪ್ರಾಆಕೇಂದ್ರರವರ ಮಾಹಿತಿಗಾಗಿ ಹಾಗೂ ಮುಂದಿನ ಕ್ರಮಕ್ಕಾಗಿ.

Permitted in the Evening after 5.00PM
Dr Staff Nurse

8/9/08 Medical Officer of Health
Primary Health Centre
Varthur, Bangalore-87

Dr Asst Dist Surg
Medical Officer of Health
Primary Health Centre
Varthur, Bangalore-87

ANNEXURE - II

LETTER REQUESTING PERMISSION FOR VALIDATION OF TOOL AND STP

From,

H.P. Hemavathy
II Yr M Sc Nursing
The Oxford College of Nursing
No. 6/9, 1st Cross, Begur road,
Hongasandra, Bengaluru-560068

To

_____

_____

Through the Principal
The Oxford College of Nursing
Bengaluru - 560068

Respected Madam/Sir,

Sub: Requesting permission for validation for tool and STP

****

I am II year postgraduate nursing student [Community Health Nursing] of The Oxford College of Nursing, Hongasandra, Bengaluru, conducting a study on **"Effectiveness of Structured Teaching Programme on knowledge regarding Occupational Safety Measures among nurses working in selected Public Health Settings of Bengaluru Urban district"** to be submitted as a partial fulfillment of Master of Science in Nursing degree of Rajiv Gandhi University of Health Sciences, Bangalore.

With regard to this, may I request your kind acceptance to validate my research tool and Structured Teaching Programme. I would be highly obliged and thankful to hear from you.

Thanking you,

Your's sincerely,

(H.P. Hemavathy)

Enclosures: Acceptance letter

ANNEXURE III

ACCEPTANCE FORM FOR VALIDATION OF TOOL AND STRUCTURED TEACHING PROGRAMME

TOPIC: "EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME ON KNOWLEDGE REGARDING OCCUPATIONAL SAFETY MEASURES AMONG NURSES WORKING IN SELECTED PUBLIC HEALTH SETTINGS OF BENGALURU URBAN".

I..... Would / would not agree upon in validating the tool.

Date:

Place:

Name:

Designation:

Signature:

ANNEXURE –IV

LETTER REQUESTING OPINIONS AND SUGGESTIONS OF EXPERTS FOR ESTABLISHING VALIDITY OF TOOL AND STP

From,

H.P. Hemavathy
II Yr M Sc Nursing
The Oxford College of Nursing
No. 6/9, 1st Cross, Begur road,
Hongasandra, Bengaluru-560068

To

_____

_____

Through the Principal
The Oxford College of Nursing'
Bengaluru – 560 068

Respected Madam/Sir,

Sub: Experts opinion and suggestions of tool and STP

******

I am II year postgraduate nursing student [Community Health Nursing] of The Oxford College of Nursing, Bengaluru, conducting a study on **"Effectiveness of Structured Teaching Programme on knowledge regarding Occupational Safety Measures among Staff nurses working in selected Public health settings of Bengaluru Urban district"** as a partial fulfillment of Master of Science in Nursing degree of RGUHS, Bangalore.

With the regard to this I request you to kindly validate the tool for its relevance, appropriateness and measurability and I am enclosing the same for your kind perusal.

Thanking you in anticipation.

Your's sincerely,

H.P.Hemavathy

Place: Bengaluru.
Date:

Enclosures:

- Statement of the problem and Objectives of the study
- Blueprint of the tool, Structured knowledge questionnaire
- Evaluation-criteria check list
- Evaluation criteria rating scale for validation of the Structured Teaching Programme
- Content validity certificate.

ANNEXURE – V - i

BLUE PRINT OF THE TOOL (STRUCTURED KNOWLEDGE QUESTIONNAIRE)

SL. NO.	CONTENT	KNOWLEDGE		COMPREHENSION		PROBLEM SOLVING		TOTAL QUESTIONS
		Item No.	No. of Questions	Item No.	No. of Questions	Item No.	No. of Questions	
1	Basic concepts	1, 2	2					**2**
2	Physical hazards	3, 6, 7, 10	4	5, 8	2	4, 9	2	**8**
3	Chemical hazards	12, 13, 14, 15	4			11	1	**5**
4	Biological hazards	16, 21, 22, 23, 26	5	18, 24	2	17, 19, 20, 25	4	**11**
6	Ergonomics	27, 28	2			29	1	**3**
7	Psychosocial hazards	30, 31, 32, 33, 34	5			35, 36	2	**7**
8	Legal safeguard	37, 39, 40	3			38	1	**4**
	Total Questions		**25**		**4**		**11**	**40**

ANNEXURE – V - ii

STRUCTURED KNOWLEDGE QUESTIONNAIRE

Dear participant,

You are requested to read each questions carefully and give your correct responses by placing a tick mark {✓} against the space provided. Please do not leave any question unattended. The information provided by you will be kept confidential and used only for the study purpose.

Sample no. { }

Section I: Demographic Profile

Please tick [v] against your most appropriate response in the space provided.

1. Age: _____ years

2. Gender: a. Male ( ) b. Female ( )

3. Religion:

a. Hindu ( ) b. Chistian ( ) c. Muslim ( ) d. Other, specify_____

4. Monthly income: Rs_____

5. Marital Status

a. Married ( ) b. Unmarried ( ) c. Widower ( ) d. Widow ( )

e. Divorce ( ) f. Separated ( )

6. Professional Qualification

a. ANM ( )

b. Diploma in Nursing ( )

c. B.Sc. Nursing ( )

d. P.C. B.Sc Nursing ( )

7. Area of working: _____

8. Years of Clinical Experience: _____Yrs

9. Source of information

a. Periodicals / Journals ( )

b. Departmental publications / Pamphlets ( )

c. Television / Radio ( )

d. Procedure manuals ( )

e. Co-Workers / Superiors ( )

f. C.N.E. Programme ( )

g. Work shop ( )

h. In-service training ( )

Section – B: Knowledge questionnaire on Occupational Safety Measures

1. A risk of accident or illness at one's work place is referred to as

   a. Occupation health ( )

   b. Occupational safety ( )

   c. Occupational hazard ( )

   d. Occupational Environment ( )

2. Promotion of physical, mental and social wellbeing of workers is known as

   a. Occupational health ( )

   b. Stress management ( )

   c. Health promotion ( )

   d. Holistic approach ( )

3. The following is an example for physical hazard

   a. Electric shock ( )

   b. Bacteria ( )

   c. Acids ( )

   d. Stress ( )

4. The following is a personal safety measure adapted by nurses to prevent physical hazards

   a. Shoes with flat sole ( )

   b. Shoes with non-slip soles ( )

   c. Shoes with high heel soles ( )

   d. Shoes with low soles ( )

5. Slips, trips and falls occur in the health care setting by

   a. Narrow corridor ( )

   b. Wet floor ( )

   c. Clean floor ( )

   d. Broad corridor ( )

6. Commonly, cuts can occur among health care workers during

a. Preparing medication ( )

b. Washing surgical instruments ( )

c. Setting surgical instruments ( )

d. Assisting for treatment ( )

7. The most common exposure to needle stick injury to nurses by

a. Before injecting ( )

b. Bending the used needle ( )

c. Recapping needles ( )

d. Disposing needles ( )

8. Exposure to extreme environmental temperature by the nurse results in

a. Sunburn ( )

b. Acid burn ( )

c. Radiation ( )

d. All of above ( )

9. Accidental needle stick injury can be prevented by

a. Recapping the used needles ( )

b. Bending the used needles ( )

c. Breaking the used needles ( )

d. Destroying the needle using needle's destroyer ( )

10. During a needle stick injury, the following factor is considered as high risk

a. Prick by large bore used needles ( )

b. Visibly clear needle tip ( )

c. Sterile needle prick ( )

d. Cut from sterile scalpel ( )

11. Nurses can protect themselves from direct contact with chemical irritants by

a. Wearing gloves, mask, and cap. ( )

b. Wearing gown, gloves, and mask. ( )

c. Wearing gloves, mask, and goggle. ( )

d. Frequent hand wash ( )

12. Formaldehyde, ethylene oxide pentaminidine can be a hazard of

a. Psychological ( )

b. Physical ( )

c. Chemical ( )

d. Biological ( )

13. The commonest source of chemical hazards in health settings is

a. Chronic exposure to antibiotics ( )

b. Use of soaps ( )

c. Use of disinfectants ( )

d. Use of penicillin drugs ( )

14. Accidental inhalation of poisons cause

a. Chemical pneumonitis ( )

b. Conjunctivitis ( )

c. Seasonal asthma ( )

d. Infective pneumonitis ( )

15. Accidental skin contact of chemical causes

a. Asthma ( )

b. Scabies ( )

c. Dermatitis ( )

d. Anthrax ( )

16. The following material is considered as biological hazard

a. Blood ( )

b. Chlorehexine ( )

c. Bleach ( )

d. Iodine ( )

17. While caring for patients, nurses should safeguard themselves by

a. Staying away from patient ( )

b. Standard universal precautions ( )

c. Isolating the patients ( )

d. Sufficient supplies ( )

18. One of the principles of standard universal precautions is to consider that all patients are

a. Free from infection ( )

b. Potentially infectious ( )

c. Hygienic ( )

d. Actively vaccinated ( )

19. Standard universal precautions may not be needed when coming in contact with

a. Sweat ( )

b. Ear secretions ( )

c. Vaginal secretions ( )

d. Nasal secretions ( )

20. To prepare a bleach solution of 1:9 ratios, you should take bleaching powder

a. 10 gms in 10 liters of water ( )

b. 15 gms in 1 liter of water ( )

c. 5 gms in 1 liter of water ( )

d. 10 gms in 1 liter of water ( )

21. Sharps, needles, I.V. cannula, stillet and blades should be collected in

a. Puncture resistant bin ( )

b. Puncture non resistant bin ( )

c. Plastic transparent bin ( )

d. Plastic non transparent bin ( )

22. To collect unbroken vials, the container colour should be

a. Yellow ( )

b. White ( )

c. Red ( )

d. Blue ( )

23. Yellow colour coded bin is used for segregation of

a. Non infectious waste ( )

b. Infectious waste ( )

c. Papers and card boards ( )

d. Plastic wastes ( )

24. Hand hygiene is essential

a. Only before patient care ( )

b. Only after patient care ( )

c. Before and after patient care ( )

d. Only hands are contaminated ( )

25. Before starting post-exposure prophylaxis treatment, which of the following investigation should be done

a. Erythrocyte count ( )

b. Widal test ( )

c. Platelet count ( )

d. HIV and HbsAg ( )

26. Metal puncture proof plastic can is used for disposal of

a. Used syringes ( )

b. Infective drip set ( )

c. Body parts ( )

d. Scalpels ( )

27. Fitting the work place to the worker is known as

a. Environmental safety ( )

b. Ergonomics ( )

c. Occupational safety ( )

d. Health protection ( )

28. Among nurses, the common Ergonomic hazard is manifested as

a. Chest pain ( )

b. Head ache ( )

c. Back pain ( )

d. Vomiting ( )

29. By maintaining good posture at work place, one can maintain

a. Healthy joints ( )

b. Good appetite ( )

c. Free movement ( )

d. Rigid body ( )

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(CHIC)
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14947

30. The common symptom of job stress is

a. Blurred vision ( )

b. Head ache ( )

c. Fever ( )

d. Breathlessness ( )

31. Common manifestations of psychological stress is

a. Hallucination ( )

b. Loss of memory ( )

c. Suicide ( )

d. Irritability ( )

32. One of the causes for psychological hazards among nurses at work place is

a. Verbal violence by patient ( )

b. Peer support ( )

c. Leave in time ( )

d. Flexible organizational rules ( )

33. The most common psychological hazard among nurses is mainly due to

a. Low popularity among public ( )

b. Cultural diversity ( )

c. Target approach ( )

d. Over time work ( )

34. The non-specific response of the body to any demand is termed as

a. Sprain ( )

b. Strain ( )

c. Stress ( )

d. All the above ( )

35. Job stress can be prevented by adopting daily

a. Frequent leave from work ( )

b. Meditation ( )

c. Tea and coffee ( )

d. Taking drugs ( )

36. Nurses can maintain mental health by adopting the following except

a. Meditation ( )

b. Positive outlook ( )

c. Medication ( )

d. Balanced diet ( )

37. The following component is one of the components of legal safeguard

a. Good rapport ( )

b. Good nutrition ( )

c. Ergonomic ( )

d. Personal policies ( )

38. Standard of care is referred to as

a. Supervision ( )

b. Institutional policies ( )

c. Protocols ( )

d. Nursing standards ( )

39. Immediately after any procedure, counting of sponges, instruments and needles will help the nurse to maintain

a. Quality care ( )

b. Legal safe guard ( )

c. Standard of care ( )

d. Organizational policies ( )

40. The following is not a legal safeguard in nursing profession

a. Licenser ( )

b. Good rapport ( )

c. Standing orders ( )

d. Personal policies ( )

ANNEXURE – V - iii

KEY ANSWERS FOR KNOWLEDGE QUESTIONNAIRE

Item No.	Correct Response		Item No.	Correct Response
1	c		21	a
2	a		22	b
3	a		23	b
4	b		24	c
5	b		25	c
6	b		26	d
7	c		27	b
8	a		28	c
9	d		29	a
10	a		30	b
11	c		31	d
12	c		32	a
13	b		33	d
14	a		34	c
15	c		35	b
16	a		36	c
17	b		37	a
18	b		38	b
19	a		39	b
20	c		40	d

ANNEXURE – V - iv

EVALUATION CRITERIA CHECKLIST FOR THE TOOL

Respected Madam/Sir,

Kindly go through the tool and give your response in the criteria table against each question. I request you to kindly give me your valuable suggestions on the content of the tool. Please give your expert comment on the items you disagree / partially agree/to be deleted/to be added which will help in modification of the tool.

Item No.	Relevant		Organized Appropriately		Measurable		Suggestions
	Agree	Dis-agree	Agree	Dis-agree	Agree	Dis-agree	
Demographic Data **Section - A**							
1							
2							
3							
4							
5							
6							
7							
8							
9							
Knowledge questionnaire on Occupational Safety Measures **Section - B**							
1							
2							
3							
4							

5							
6							
7							
8							
9							
10							
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39							
40							

Comments:

_____

_____

_____

_____

Place: Signature of the expert

Date: Name and Designation

ANNEXURE – V - v

EVALUATION CRITERIA RATING SCALE FOR VALIDATING THE STRUCTURED TEACHING PROGRAMME

Respected Madam/Sir,

Kindly go through the content and rate the content in the following columns ranging from very relevant to not relevant. When found to be not relevant and needs modification kindly give your opinion in the remarks column.

Sl No	Content	Relevant	Need Modification	Not Relevant	Remarks
1	**Objectives** - General objectives - Specific objectives - Nurses oriented - Realistic to achieve the outcome - Specific measures of the outcome				
2	**Selection of the Content** - Adequate to achieve the objectives - According to the nurses cognitive level - Aims to improve the knowledge of the nurses - Continuity of the content observed				
3	**Organization of the Content** - Arranged in logical sequence - Integration of the content				

4	**Language** - simple to comprehend - clear to perceive the meaning of the content				
5	**Practicability and feasibility of the STP** - Content presented in an interesting manner - Content motivates participants - content improves the knowledge of the nurses - Content is structured and adheres to provide adequate information				

Suggestions:

Place:

Date:

Signature of the Validator

Name:

Designation:

ANNEXURE – V - vi

CONTENT VALIDITY CERTIFICATE

I here by certify that I have validated the tool and the Structured Teaching Programme on Occupational Safety Measures among nurses by H.P. Hemavathy, II year M.Sc. Nursing student who is under taking a study on **"Effectiveness of Structured Teaching Programme on knowledge regarding Occupational Safety Measures among nurses working in selected public health settings of Bengaluru Urban**".

Place: Bengaluru

Date:

Signature of the expert

Name:

Designation:

ANNEXURE –VI

LIST OF EXPERTS CONSULTED FOR CONTENT VALIDITY OF THE TOOL AND STP

1. **Dr. B.S. SHAKUNTALA**
   Principal & HOD
   Dept. of Community Health Nursing
   AECS Maruthi College of Nursing,
   Bengaluru

2. **Dr. B.T. BASAVANTHAPPA**
   Principal & HOD
   Dept. of Community Health Nursing
   Rajarajeshwari College of Nursing
   Mysore road, Bengaluru.

3. **Mr. A.S. GEORGE**
   Principal & HOD
   Dept. of Psychiatric Nursing
   City College of Nursing
   City health complex, Mangalore.

4. **Mr. PRAKASH. H.B**
   Professor & HOD
   Dept. of Community Health Nursing
   Government College of Nursing
   Victoria Hospital, Fort, Bengaluru.

5. **Mr. NAGARAJAPPA**
   Professor & HOD
   Dept. of Community Health Nursing
   S.B. College of Nursing,
   Yelahanka, Bengaluru.

6. **Mrs. ESTHER SHERLI DANIAL**
   Principal & HOD
   Dept. of Community Health Nursing
   KNN College of Nursing,
   Bengaluru

7. **Smt. CHITRA**
   Professor
   Dept. of Community Health Nursing
   Florence College of Nursing
   Bengaluru.

8. **Mrs. V.T. LAKSHMAMMA**
   Principal & HOD
   Dept. of Community Health Nursing
   Kempegowda College of Nursing
   K.R. Road, Bengaluru.

9. **Mrs. SHANI JOHN SEQUEIRA**
   Professor & HOD
   Dept. of Community Health Nursing
   The Oxford College of Nursing
   Bengaluru-68.

10. **Mrs. T. MALA**
    Principal & HOD
    Dept. of Community Health Nursing
    Dr. Shyamala Reddy College of Nursing,
    Marathahalli, Bengaluru.

11. Mrs. MAHALAXMI

Professor,

Dept. of Community Health Nursing

Goutham College of Nursing

Mahalakshmipuram, Bengaluru – 86.

12. Dr. PARASURAMULU

HOD,

Dept. of Community Medicine (P&SM)

Kempegowda Institute of Medical Sciences, Bengaluru.

13. Dr. PRUTHVEESH

Principal & HOD

Dept. of Community Medicine (P&SM)

M.S. Ramaiah Medical College

Bengaluru

ANNEXURE –VII

LETTER REQUESTING PERMISSION TO CONDUCT PILOT STUDY

To

The Medical Officer
General Hospital,
Krishnarajapuram, Bengaluru -560036.

Respected Madam / Sir,

Sub: Requesting permission for conducting pilot study- reg

****

H.P. Hemavathy is a II year postgraduate nursing student of our institution. She has selected the below mentioned topic for research project to be submitted to Rajiv Gandhi University of Health Sciences, Bangalore as a partial fulfillment of Master of Science in Nursing.

Title of the topic: **"Effectiveness of Structured Teaching Programme on knowledge regarding Occupational Safety Measures among staff nurses working in selected public health settings of Bengaluru urban district".**

Regarding this project, she is in need of your esteemed help and co-operation in conducting pilot study in your hospital. Hence I request you to kindly permit her to conduct the pilot study.

The student will furnish further details of the study if required personally.

Please do the needful and oblige.

Thanking you,

Place: Bengaluru

Your's faithfully,

Date:

PRINCIPAL

ANNEXURE –VIII

LETTER REQUESTING PERMISSION TO CONDUCT MAIN STUDY

From,

H.P. HEMAVATHY
II Year M.Sc Nursing Student
The Oxford College of Nursing,
No. 6/9, 1st Cross, Begur road,
Hongasandra, Bengaluru – 560 068.

To,

_____

_____

Forwarded through the Principal
The Oxford College of Nursing,
No. 6/9, 1st Cross, Begur road,
Hongasandra, Bengaluru – 560 068.

Respected Sir / Madam,

Sub: Letter requesting permission for conducting the study.

I, H.P. Hemavathy, II yr M.Sc. Nursing (Community Health Nursing) student at The Oxford College of Nursing, Bengaluru, have selected the below mentioned topic for my research project to be submitted to Rajiv Gandhi University of Health Sciences, Bengaluru, as a partial fulfillment of Masters in Nursing degree.

The title of the topic is "**Effectiveness of structured teaching programme on knowledge regarding Occupational safety measures among nurses working in selected public health settings of Bangalore Urban".**

Regarding this project, I am in need of your esteemed help and co-operation as I am interested in conducting the study in your PHC. Hence, I request your good self

to kindly permit me to conduct the proposed study in your PHC, and provide the necessary facilities for the study.

Please do the needful and oblige.

Thanking you in anticipation

Yours faithfully,

Date:

Place: Bengaluru

(H.P. HEMAVATHY)

ANNEXURE – IX

LETTER SEEKING CONSENT OF THE SUBJECTS TO PARTICIPATE IN THE STUDY

Dear participant,

I am post graduate nursing student at The Oxford College of Nursing, Bengaluru conducting a study to assess the effectiveness of the Structured Teaching Programme on knowledge regarding Occupational Safety Measures among staff nurses working in selected Public Health Settings of Bengaluru Urban district, which helps in identifying the major occupational health hazards at work place and to take preventive measures and thereby improving the standard of nursing care and the profession. Hope you will co-operate with me for the same.

I request you to answer the given questionnaire with the most appropriate responses. Kindly do not leave any question unattended. The information given by you will be kept confidential and used only for the study purpose. Kindly sign the consent form given below.

Thanking you,

Your's faithfully

H.P. Hemavathy

B. CONSENT FORM

I_____ hereby give my consent for the above said study conducted by the investigator would treat all the information provided by me with utmost confidentiality.

Place:Bengaluru.

Signature of the participant

Date:

Name and address

ANNEXURE - X

SCORING KEY OF THE TOOL

PART I: CODE OF DEMOGRAPHIC PROFILE

Sl. No.	Demographic Profile	Code No.
1	**Age in Years**	
	20 – 30	a
	31 – 40	b
	41 – 50	c
	51 – 60	d
2	**Gender**	
	Male	a
	Female	b
3	**Religion**	
	Hindu	a
	Christian	b
	Muslim	c
	Others, specify	d
4	**Monthly income**	
	Rs. 5000 – 10000	a
	Rs. 10001 – 15000	b
	Rs. 15001 – 20000	c
5	**Marital status**	
	Married	a
	Unmarried	b
	Widower	c
	Widow	d
	Divorce	e
	Separated	f

6	**Professional qualification** ANM Diploma in Nursing B.Sc Nursing PC B.Sc Nursing	 a b c d
7	**Area of Working** PHC Maternity Home FRU / GH	 a b c
8	**Clinical experience** 1 – 5 yrs 6 – 10 yrs 11 – 15 yrs 16 – 20 yrs 21 – 25 yrs 26 – 30 yrs	 a b c d e f
9	**Sources of Information** Periodicals / Journals Departmental publications Television Procedure manuals Co-workers / Superiors CNE Programme Work shop In-service training	 a b c d e f g h

PART II: KNOWLEDGE QUESTIONNAIRE SCORING KEY

Sl. No.	Knowledge Variable	Total Questions	Total Score
1	Basic concepts	2	2
2	Physical hazards	8	8
3	Chemical hazards	5	5
4	Biological hazards	11	11
5	Ergonomics	3	3
6	Psychosocial hazards	7	7
7	Legal safeguard	4	4
	Total	**40**	**40**

ANNEXURE – XI

LIST OF STATISTICAL FORMULAE USED

1. Formula for coefficient of correlation by deviation method

$$r = \frac{SXY}{\sqrt{SX^2\,Y^2}}$$

2. Spearman Brown Prophecy formula for Reliability

$$r^1 = \frac{2r}{1+r}$$

3. Mean

$$\overline{X} = \frac{Sx}{N}$$

4. Mean Percentage

$$\text{Mean \%} = \frac{\text{Mean x 100}}{\text{Max Score}}$$

5. Standard Deviation

$$SD = \sqrt{\frac{Sd^2}{N}}$$

6. Paired't' test

$$t = \frac{\overline{X}}{SE} \qquad \left\{ \quad SE = \frac{SD}{n} \right.$$

7. Chi – squire test

$$X^2 = \frac{S\,(O - E)^2}{n} \qquad \left\{ \quad E = \frac{r \times c}{E} \right.$$

Structured Teaching Programme

Structured Teaching Programme

ANNEXURE – XII

STRUCTURED TEACHING PROGRAMME

Teacher's Name	:	**H.P. HEMAVATHY**
Subject	:	Community Health Nursing
Topic	:	Occupational safety measures among nurses
Group	:	Nurses
Time and duration	:	2 Hours
Place	:	Public health settings
Method of teaching	:	Lecture cum Discussion
A.V. Aids	:	Charts, Handouts.
General Objectives	:	At the end of the Structured Teaching Programme, the nurses develop in-depth knowledge on causes & prevention of physical hazards, ergonomics, chemical hazards, biological hazards, psychosocial hazards and legal safeguard.
Specific Objectives	:	At the end of the teaching programme, the nurses will be able to:-

1. recognise and understands the common terminologies used in related to occupational safety measures.
2. describe the types of occupational hazards.
3. enumerate the importance of occupational safety measure.
4. define occupational safety measures.
5. explain physical hazards, ergonomics, chemical hazards, biological hazards, psychosocial hazards and legal safeguard – causes and prevention.

Time	Specific Objective	Content	Teaching & Learning Activity	Evaluation
3 min.	To Introduce the topic	The International labour organization (ILO) acknowledged the need for safe and healthy workplace for nurses 30 years ago. International, National and local organizations and many government entities have implemented policies and regulations to protect nurses. Nursing is vital to the health care industry without whom the millennium development goals cannot be achieved. Nurses are exposed to many occupation related hazards such as physical hazard in accidental, chemical hazard, Biological hazards, Ergonomics and psychosocial and organizational factors.	Teacher introduces the topic to the nurses. Nurses listen.	
5 min.	To enumerate the importance of occupational safety measures.	The further International Council of Nurses (INC) is clear that a safe work environment in the health sector significantly contributes to patient safety and supports positive patient outcomes. To that end ICN promotes the development and application of international, national and local policies or instruments that will safeguard the nurses right to a safe work environment, including continuity education, immunisation and protective clothing/equipment.	Teacher explains the importance of occupational safety measures with the help of charts. Nurses listen to the teacher's description.	
15 min.	To enlist the common terminologies used in related to occupational safety measures	**(a) OCCUPATIONAL HEALTH:-** "Refers to the promotion and maintenance of the highest degree of physical mental and social well being of workers in all occupations". **(b) OCCUPATIONAL HAZARDS:-** A working condition that can lead to illness or death after, people in jobs which pose a high level of risk are paid more than similar but less risky jobs to compensate for danger involved. **(c) OCCUPATIONAL SAFETY MEASURES:-** "It refers to various precautions adapted by nurses against physical and Ergonomics, Biological, Chemical, psychological and legal hazards these measures include using universal precautions, body mechanics, proper	Teacher enlists the common terminologies used related to occupational safety measures with the help of charts. Nurses listen and clarify doubts.	

handling of equipments, chemical, legal protections and safe work environment.

(d) UNIVERSAL PRECAUTIONS:-

Refers to the practices, in medicines, of avoiding, contact with patients, bodily fluids, by means of the wearing of non porous articles such as medical gloves, goggles and face. Shields, Medical instruments, especially scalpels and hypodermic needles should be handled, blood borne and airborne".

(e) PHYSICAL HAZARD:-

It refers to the physical factors that contribute to the occurrence of injury include the structure of the work space, the equipment used, the temperature in the work environment, the presence of radiation, the lighting and noise levels.

(f) **ERGONOMICS:-**

It is derived from Greek words ergo which means work and nomos, which means law. It is a discipline that attempts to establish the best fit between the human and the imposed job conditions in order to maximize the health and well-being as well as the productivity of the worker.

(g) **CHEMICAL HAZARD:-**

Refers to the form of gases, dust, mists, vapours and solvents. It range from acute to chronic effects from latex plastic, medications, solutions, gases, such as :- Ethylene oxide, Formaldehyde, glutaraldehyds, waste anaesthetic cytotoxic agents, pentamidine.

(h) **BIOLOGICAL HAZARDS:-**

Refers to the infections producing organisms that are found in the work place of: - Bacteria, Viruses, moulds, fungi or parasites that may be transmitted by contact with infected patients or contaminated body secretions/fluids.

		(i) **PSYCHOLOGIC HAZARDS:-** It refers to the study of the human mind and its functions. Or a person's mental characteristics. It is less tangible than other hazards it is a very real and important factor in the consideration of work- related health problems among nurses. The impacts of these factors are stress. This is the fight or flight response in the body, caused by adrenaline and other stress hormones causing the physiological changes.		
5 min.	To describe the types of occupational hazards.	Types: (a) Physical hazards including Accidents. (b) Chemical hazards. (c) Biological hazards. (d) Ergonomic. (e) Psychological and organizational hazards. (f) Legal safeguarding	Teacher describes about types of occupational hazards with the help of charts. Nurses listen to the teacher's description.	
10 mins	To describe Physical hazard, causes	**PHYSICAL ACCIDENTAL HAZARDS INCLUDES:-** - Slips, trips and falls. - Stabs and cuts from sharp objects e.g.:- Needle Stick injury and Cuts by blades, sharp instruments, scissors. - Burns and scalds due to boiling water from sterilizer. - Electrical shock from faulty or improperly grounded equipment. - Exposure to ionizing radiation from X-ray equipment and radioisotopes. **PREVENTIVE MEASURES:-** - Wear Shoes designed with non slip soles. - Implement good house keeping practices. - Use gloves while handling needles and blades.	Teacher describes about physical hazard, causes and its prevention with the help of charts. Nurses listen to the teacher's description.	

		- Do not bend, break or recap the needle. - Destroy the needle safely by using needles destroyer, segregate and store detached syringes and discard in the red container, or like a tin with a lid or a thick plastic can or box containing prepared bleach solution. - If destroyer is not available, keep needles, sharp objects in puncture resistant disposal containers. - Store broken vials in a separate white translucent and puncture proof container and discard unbroken vials in the red container. - Switch off sterilizer, use transfer forceps to prevent heat or steam Burn. - Install ground fault circuit interrupters that comply with all safety instructions on installation. Call qualified electrician to test, repair and periodic inspection of electrical, medical equipment. - The working area or room should be well ventilated by keeping the windows open. - Use sunburn cream or skin protection cream and umbrella while working outdoor.		
10 mins	To describe Chemical hazard, causes, & prevention	**b) CHEMICAL HAZARDS:-** Nurses are commonly exposed to chemical hazards during their work place such as:- Exposure to anaesthetic materials, disinfection solution, cotton, old book dust and fumigation fumes. Accidental exposure and chronic poisoning due to inhalation, ingestion or spillage etc. These chemical exposures lead to health problems such as chemical pneumonitis, Pulmonary oedema, leukaemia, lung-cancer, Dermatitis, Heart diseases, Behavioural disorders, polyneuritis, Skin irritation and dermatomes due to latex allergy and glove powder allergy.	Teacher describes about physical hazard, causes and its prevention with the help of charts. Nurses listen and clarifies doubts	

		PREVENTIVE MEASURES:- - Use gloves, mask, and protective eye wear while dealing with gas agent - Use protective clothing. - Wash hands with a PH-Balanced Soap. - Apply only non-oil based hand care product. - If possible, wear powder free gloves. - If reaction or dermatitis present report for medical treatment.		
20 mins	To describe Biological hazard, causes, & prevention	**(c) BILOGICAL HAZARDS:-** Contracting a communicable disease and infected patients or contaminated body secretions, fluids e.g.:- Human immunodeficiency virus (HIV), hepatitis B and C, tuberculosis (TB) and varicella. **PREVENTIVE MEASURES:-** Standard universal precautions are followed while in contact with infectious body fluids or secretions, these are: - Blood, Semen, vaginal secretions, any visible bloody body fluid. Potentially infectious body fluid or secretions are Amniotic fluid, Breast milk, CSF, Pericardial fluid, peritoneal fluid, pleural fluid, pus, synovial fluid. **(A) CERTAIN GUIDELINES.** (a) All patients/persons are potentially infections (b) All blood, body fluids and tissue are considered as contaminated. (c) All un-sterile needles and sharps are considered (d) Identify a risk before starting any procedure. (e) Use appropriate barrier protection for the procedure being performed. (f) If the splash to the nose, mouth flush with water. If the splash to the eyes rinse thoroughly with plenty of running water or irrigate immediately by running a pint of normal saline over 10 minutes with the eye being held open by another person. (g) Immediate care should be taken when needle pricks or cuts happened.	Teacher describes about physical hazard, causes and its prevention with the help of charts. Nurses listen and clarify doubts.	

Immediate care:-

- Encourage bleeding by squeezing.
- Wash for 10 minutes with soap and water or antiseptic.
- Cover with water proof dressing eq: - Band aid.
- Don't attend to patients until the wound is covered
- Avoid putting the pricked finger into mouth reflexively.

(h) REPORTING AND RECORDING:

The person must be informed to report about the incident themselves to the person in charge of such situation in the hospital (Medical officer/authorities/infection control officer, Nursing inchage) regardless of person HIVstatus.complet the needle stick register or occupational exposure register.

In case of exposure to accidental needle stick injury post exposure populaces must be started with in the 1-2hours

Initiating treatment after 72 hours of exposure is not recommended.

Before starting treatment investigation should be done such as

-Haemoglobin

-Platelet count

-Reticulocyte count

-WBC-Total and differential counts

-Renal, liver function tests

-Random blood sugar

(i) Risk is more if any of the following factors are present:-

- When pricked by large bore needle no-22 gauge
- Peripheral blood was collected in needle.
- Visible blood was found on the tip of the needle
- Deep muscle injury.
- Patient or person is HIV positive or HIV status is not yet clear.

(j) Standard precautions are not needed:-

While dealing with Non-infectious body fluids or secretions are Faeces, Nasal secretions saliva, sputum, sweat, Tears, urines, vomit us, unless they contain visible blood.

(B)COMPONENTS OF STANDARD PRECAUTIONS:-

a) Hand hygiene

The following points to be kept in mind:-

- Remove jewellery and push long sleeves above wrist.
- Adjust the water tap to appropriate force.
- Wet hands and wrists under the running water, using soap wash handle thoroughly 1 minute by a firm, circular motion and friction on back of hands, palms and wrists. Wash each finger individually paying wash separately, wash nails thoroughly.
- Dry hands thoroughly with towel.
- Don't touch the unsterile surface or material before starting the procedure.

Hand hygiene should be followed during these situation

- Before and after caring for a patient.
- When contacted with organic Material.
- Before doing preparation for any procedure.
- Before changing a dressing or having contact with open wound.
- After removing gloves.
- After handling contaminated equipment.

b) Gloves:-

Gloves should be worn for conducting all the procedure. Double gloving is essential while conducting the delivery or doing procedure like attending accident patients or any high risk patients.

Effective use of gloves:-

- While cleaning instruments and handling soiled links thick rubber gloves to be worn
- Remove gloves before leaving the patients bedside.
- Change gloves between each patients and procedures.
- Don't use gloves with holes are tears are found.

-Don't wash hands with gloves on

- Avoid reuse disposable gloves.

c) MASKS:-

-Use complete face mask for procedures likely to contaminate eyes, nose or Mouth.

-While wearing the mask cover the mouth and nose.

-Change mask for every procedure or immediately if they become contaminated

d) EYE WEAR:-

-Cover the eyes both in-front and on the sides.

-Eye wear should be fits well on the face and do not restrict your vision.

e) GOWNS (PROTECTIVE CLOTHING)

-Wear a plastic apron under the gown to avoid liquid to soak through.

-Use full sleeved gowns for procedures.

-After using protective clothing must be stored properly before leaving the work area.

TO AVOID TRANSMISIONUSION OF INFECTIOUS DISEASES.

Follow proper use of disinfecting techniques

- Prepare a bleach solution by using proper method.
- Bleach: water =1:9
- Prepare just before use
- Soak for at least 30 min
- Soak heavily contaminated objects over night
- Do not soak sharp instruments e.g.: - Needles, scissors, Scalpels.

(C)HOW TO STERILIZE CONTAMINATED INSTRUMENTS:-

-After through cleaning of instruments boil in water for 20 minutes if is steam sterilizes is not available.

-If steam sterilizer is available sterilize with steam sterilize under pressure 120° C for at least 20 minutes.

-Sterilize with dry heat in an electric oven for 2 hours at 170° c(340° F)

-For sharp instruments sterilization:-

-wash thoroughly wipe the water or keep for dry in air.

-Soak in one of the following disinfectants for 30 min in chlorine releasing compounds e.g.:- Gletaral dehyde (Gluteral) 2%, Ethyl and isopropyl alcohol 70%, polyvidone Iodine 2.5%, Formaldehyde / Formalin 4%.

(D) DISPOSING OF WASTES:-

Follow colour coding for segregation of wastes;-

(a) White colour bin :-

General waste (Non- infections and non hazardous) paper, cardboard food residual, fruit skin.

METHOD OF DISPOSAL:-

No treatment needed.

Recycling, composting, Land fill.

(b) Blue colour bin :--

Infective clinical waste, plastic Syringes, catheter, drip set etc.,

METHOD OF DISPOSAL:-

Chemical treatment with 1% bleach solution stored for recycling.

(c)Yellow colour bin:-

Organic waste, Placenta, Body parts, Blood, Puss, Soiled Dressing, Plaster of costs.

METHOD OF DISPOSAL:-

No treatment Deep burial. If liquid wastes like urine, stool, and blood

		amniotic fluid flush into the sanitary sewer or pit latrine wash it with disinfective. (d) Red colour plastic puncture proof bin or steel can :- Infective sharps, needles, blades, scalpels. **METHOD OF DISPOSAL:-** Chemical treatment with 1% bleaches solution segregate for safe disposal.		
15 min.	To explain ergonomics, principles and proper use	**ERGONOMICS** Is a body of knowledge about human abilities, human limitations and human Ergonomic. Design is the application of this body of knowledge to the design of tools, Machines, Systems, tasks, jobs and environments for safe comfortable and effective human use". Principles are to adopt the work site to the worker rather than the worker to the work site. **ERGONOMICS HAZARDS:** -Acute back pain due to awkward body position or when performing over - strenuous movements, sitting, standing when handling heavy patients, instruments. -Long standing during operation, procedure. -Musculoskeletal damage as a result of lifting incapacitated patients. -fatigue resulting from prolonged working while standing or walking.	Teacher describes about ergonomics hazards, principles and proper use with the help of charts. Nurses listen.	

PRINCIPLES OF BODY MECHANICS:

-Do not lean; keep the back straight use the energy required carefully.
-Keep the parts of the body as close to the vertical axis of the body as Possible.
- Stand close to work, Keep the chest up and forward,
- Maintain the normal spinal curves
-Lower the centre of gravity over a wide supporting base, more stability is maintained.
-Lift object by bringing it to close to your body, keep your equilibrium with a wide base of support.
- Stand with feet separate toes pointing ahead and one foot forwards for balance.
-In activity keep the weight balanced over the base of support.
-Preparing muscle for action by performing simple exercises on a daily basis.

EFFECTS OF CORRECT POSTURE:-

-Efficiency and economy of energy.
-Correct posture favours skill in the activity
-Healthy joints, reduces strain on muscles, ligaments and tendon.
-Good posture good organized activity.
-It contributes towards a healthy mental state and a sense of well-being.
-It makes to look younger, brighter and more attractive.

20 min.	To describe Psychosocial hazard, causes, & prevention	**V.PSYCHOSOCIAL HAZARDS:** It is less tangible than other hazards it is a very real and important factor in the consideration of work – related health problems among nurses. The impacts of these factors are stress. This is the fight or flight response in the body, caused by adrenaline and other stress hormones. Causing the physiological changes. Stress:-It is the reaction to people have to excessive pressures or other types of demand placed on them. **(A) PHYSICAL AND PSYCHOLOGICAL SIGNS AND SYMPTOMS**: Physical signs: - Rapid heart rate and respirations. - Increased body temperature - Nervous tics, reduced immunity, fatigue, low energy Physical Symptoms: - Dry mouth and throat, weakness, dizziness, trembling hands, fingers, body, menstrual problems, loss of appetite, frequent urination, diarrhea, acid stomach, heart burn, back, neck pain and head ache. **Psychological/ behavioural signs:** - Absenteeism, apathy, irritability, anger, conflicts with workers, depression, drug dependence, smoking alcoholism, impaired judgment, isolation, excessive worry, anxiety, forgetfulness unable to complete tasks, suicidal tendencies. Psychological/ behavioural Symptoms: - Feelings of helplessness and hopelessness, decreased interest in sexual	Teacher Describes various psychosocial hazards with the help of charts. Nurses listen.	

activity, inability to concentrate

(B) Hazards of stress

a) <u>Psychosocial hazards</u>

- Stress strained family relations and burnout due to long work time, night work, shift work, overtime, work, holiday work.
- Physical violence by the patient and their relative's higher officer's in the community, family members and co-workers.
- Verbal violence by the patient and relative's higher official's co-workers, patient's and family members, community leader and other public.
- Sexual abuse by the co-worker, higher officer, community leader, public and patient relatives.

b)<u>Organizational hazards</u>

- Stress strained co-worker relations and burnout due to shift and night work, long time work, overtime work, holidays work.
- Over burden organizational policies, strict and rigid organization rules.
- Stress due to not getting leave in time.
- Lack of variety monotonous, meaningless and or unpleasant tasks.
- Lack of participation in decision making no control over work methods, environment and working hours.
- Job insecurity under-promotion or over promotion, unclear of unfair

performance evaluation systems, skill level not matched to the job.

- Confliction demands of work and home, lack of support for domestic problems at work and for work problems at home.
- Age, gender, race, religious discrimination
- Change in technology and ne trends
- Stress due to not getting lunch time, water for washing hands, proper room to have food, change uniform and no proper place during menstrual period for maintaining hygiene.
- Stress due to not getting sufficient supply of medication, inventory and funds, government benefits to people.

(C)STRESS MANAGEMENT

Identify physiologic and psychological stressors by your self what stress you more e.g.:-education, finance, job, familyhabits, activities, personal and family health history and responsibilities. Adapt healthy habits and healthy behaviours.

Relaxation techniques:

a) <u>Relaxation breathing technique:</u>

- Concentrate on breathing slowly and deeply with eyes closed for several minutes.
- Breath in through your nose and mouth with face relaxed for a count of 1 and 2, 3 and 4.

- Hold your breath for 4 seconds without straining.
- Breath out through your nose and pursed lips for a count of 6
- Repeat two or three times, breathe naturally for about 30 seconds then repeat one or more sequences.

b) <u>Progressive muscle relaxation:</u>

- In this exercise you will alternately tense and relax your muscle groups one by one.
- While sitting or reclining and close our eyes with comfortable position.
- Start with your fore head and tense the muscles hold this position for 5 to 10 seconds.
- Relax your fore head, noting the relief concentrates on this for 10 to 15 seconds. Continue from head to toe with each muscle group.
- Note the feeling of total relaxation in your body once you have relieved tension from all muscles.
- Complete the exercise by opening eyes, taking a few deep breathes, stretching and arising slowly.
- **<u>Autogenic training:</u>**
- If any problems put your self questions and make self suggestions it will help in relieving problems and induce sleep.
- **Imagery:**

- Imagery allows us to take a mental care by using our imagination and diverting our attention from stressful thoughts.
- put yourself in that place by imagining a pleasant place such as pooja room, garden, temple, park, and beach. Stay in that place for about 5 minutes, imaging differing images let the images fade, breathe deeply and count up to 5 before opening your eyes.

c) Destruction:

Adjust the distraction method to your mood do not attempt a complex project or listen to loud music rather than listening to quiet soothing music or sketch a free form design. Use own interest and activities to divert attention from problems and anxiety includes listening to music watch television, reading book, singing, knitting, doing crafts, gardening etc.

Exercise:

Aerobic exercises gives benefit of weight loss muscle toning and improve circulation.

- Exercises at least three times a week and be consistent.
- Go for walk morning or evening if it is not possible at least once a day.
- Do house hold work like cleaning, washing, moping.
- **Nutrition**
- Eat smaller, more frequent meals for energy
- Increase fiber in diet to 20 to 30 gm daily.
- Maintain moderate protein intake of fish, beans, sprouted nuts and limit salt, alcohol consumption; drink plenty of water and enough vitamins, calcium, miners. Iron for maintaining good health.

Mental health

- Get enough sleep
- Reforming the stressful situation thinking healthy way, take it positively
- Make time relaxation and fun by adopting daily prayer and meditation and doing fun, jokes.
- Make time for social activities and spi9ritual activities like attending social functions, family functions and visiting temples and doing meditations and daily prayer.

STEPS FOR MANAGING STRESS:

- Select the relaxation techniques according to your choice.
- Practice relaxation techniques for 20 mints a day to feel more relaxed when stress is more.
- To achieve good results the combine techniques such as relaxation breathing before and after imagery or progressive muscle relaxation along with autogenic training can be followed.
- Recognize specific stressors if they can be altered and then manage for such type of stressors by changing jobs or posting areas.
- Avoid unnecessary stress know your limits and stick to that, take control of your environment.
- Avoid repeatedly argue about the same subject with the same people and people who stress you out more.

		- Express your feelings with your close friends - Avoid negative coping behaviors such as smoking drinking, using drugs, over eating and using abusive behavior towards others. - Take support from family, friends, church groups, social groups or professional support groups - Maintain safe sexual activity follow monogamy it will prevent sexually transmitted diseases. - To understand their sexuality needs, communicate with sexual partners about their satisfaction, problems and seek at least yearly once medical help for gynecologic problems and general health. **ABC of stress management** A – Acquire awareness of your own handling method, solution and how you will response to that stressful situation and the reason for too much stress. B – Believe that I can change any personality, attitude, practice and my behaviour to avoid unnecessary stress. C – Commit yourself to handle the problem that causes stress during your daily work. Learn the techniques that help you cope in any situations, which you have no control to understanding that you can choose how to react in stressful situations.		
20 min	To explain the Legal safe guard and what are the measures.	**LEGAL SAFE GUARD** It is the one of the component of legal process. Nurses have to practice safe manner and professionally responsible for his actions or inactions. So nurses should develop a personal risk management	Teacher explains legal safe guard measures with the help of charts. Nurses listen and	

		plan or legal safeguard to minimize the possibility of malpractice. **SAFEGUARDS INCLUDES**: **-LICENSURE**:--All nurses who are in nursing practice have to possess a valid licensure, issued by the respective state nursing council/Indian nursing council. **-GOOD RAPPORT**:-Development good rapport with the client is very important to prevent malpractice & continuity of care. **-Standards of care**: - Nurses should maintain, certain standards when administering care it includes laws, organizational standards and institutional polices and procedures. **-Standing orders:-**The nurses not have permission to legally diagnose illness or prescribe treatment. During emergency condition or practicing in community she or he can apply standing orders or treatment guideline according to the institution polices. **-Contracts**:-A contract is a written or oral agreement between two people in which goods or services are exchanged. **-Consent for operation and other procedures**:-A patient coming into hospital still retains his rights as a citizen and his entry and for any operation or other procedure his willingness should be obtained by taking signature. **-Correct identity:-**The midwife has the great responsibility the all babies born in hospital she should correctly labelled and she should identify the	clarify doubts.	

		right patient, right drugs, right time, right dose and right routes of administration of drugs. -**Counting of sponge, Instrument and Needles**:-She/he is the responsible for counting of sponge, instrument and needles before and after the away surgical procedure. -**Drugs maintenance**:-The two acts which control the use of poisons in medicine are -Misuse of Drugs Act 1971. -Dangerous Drug Act 1965 and 1967.		
5 min	Summarize the topic	Today we have discussed what is occupational health, occupational safety measures and occupational hazards. We have also discussed the different types of occupational health hazards such as 1. Physical hazards including accidents, ergonomics including back pain, proper posture and lifting techniques. 2. Chemical hazards. 3. Biological hazards. 4. Psychological and organizational hazards. 5. Legal safeguarding. We have also dealt with the causes, and prevention of various occupational health hazards. We have discussed in brief about waste disposal methods and nurses responsibilities.	The teacher summarizes the topic by discussion. Nurses listen and clarify doubts.	
5 min.	Conclude the topic.	To conclude, it may be re-emphasized that occupational safety measures help to resolve work related health problems, work hazards and how to protect them solves by adopting positive out look. Nurses are the corner stone of prosperity in	The teacher concludes the topic.	

any society since their ill health and reduction in their standard of care to patients has a negative impact on the nurses.

The occupational safety and health act of 1970 generally provides workers with protection against personal injury and illness resulting from hazardous working conditions.

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A.V.Aids

A.V.Aids

OCCUPATIONAL HAZARDS

OCCUPATIONAL SAFETY MASURES

A.V. AIDS

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OCCUPATIONAL HAZARDS

PHYSICAL HAZARDS

PROLONGED STANDING CAUSES BACK ACHE, NECK PAIN, LEG PAIN

BLEEDING FROM NOSE DUE TO PHYSICAL STRESS

ELECTRICAL BURNS DUE TO FAULTY ELECTRICAL FITTINGS

FAULTY ELECTRICAL WIRINGS & PLUG

TRIPS AND FALLS

RADIATION HAZARDS

USE PROTECTIVE APRON

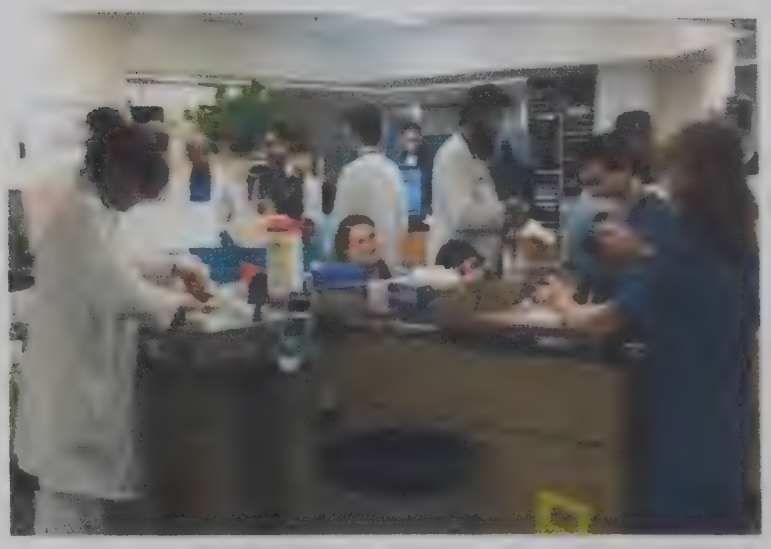
USE UMBRELA TO AVOID SUNBURNS

SAFETY MEASURES

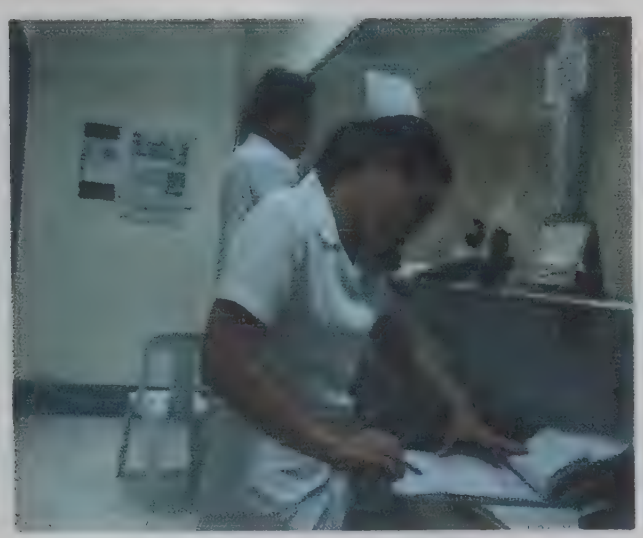
INSTALLING WARNING / DANGER SIGNS WHEREEVER REQUIRED

AVAILING SERVICES OF QUALIFIED ELECTRICIAN

ERGONOMICS



UNORGANIZED OFFICE

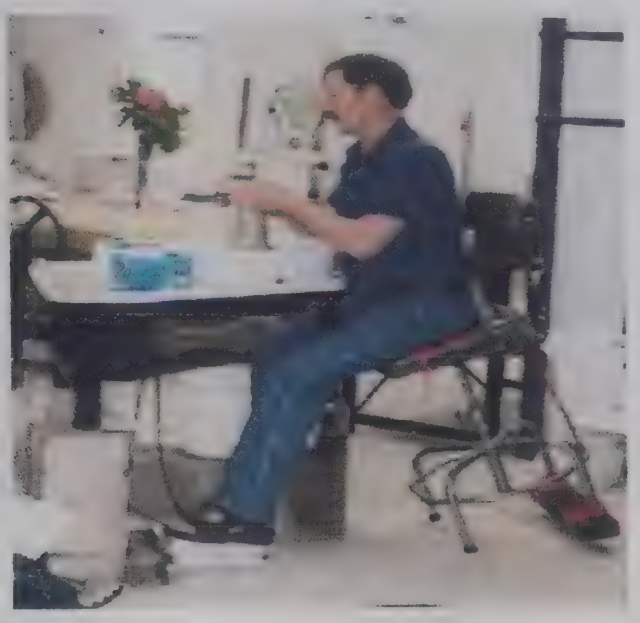


A WELL ORGANIZED NURSES STATION AVOID CONFUSION AND HELPS IN SMOOTH FUNCTIONING

LIGHTING WITH GLARES CAUSES EYE STRAIN

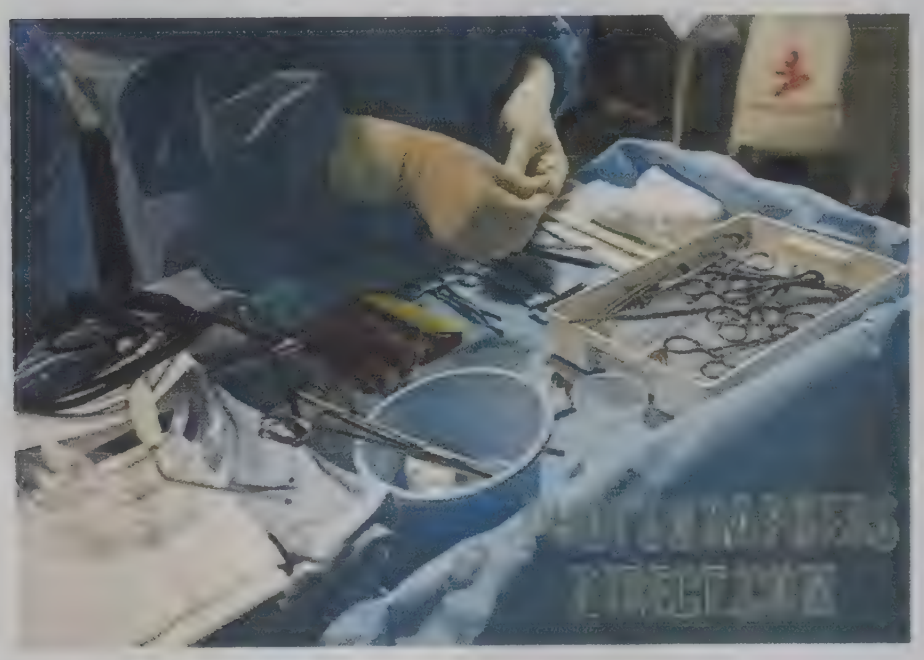
LIGHTING SYSTEM WITHOUT GLARES IS IMPORTANT

SIT AND STAND CHAIR TO PROVIDE COMFORT FOR LEGS AND AVOID FATIGUE DUE TO LONG STANDING DURING WORK



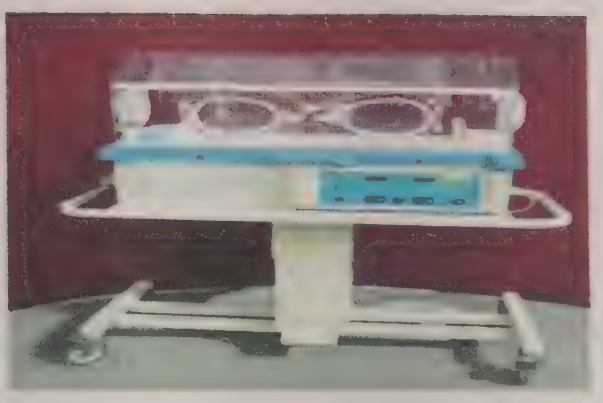
WELL ORGANIZED INSTRUMENTS ON THE TROLLY

TO AVOID UNNECESSARY MOVEMENTS.

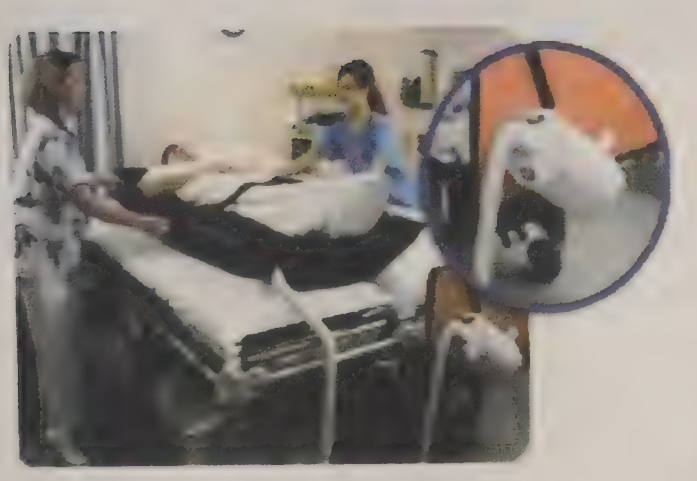


CORRECT BODY POSTURES

HOLD THE OBJECTS CLOSE TO THE BODY TO OBSERVE AND AVOID OVER REACHING



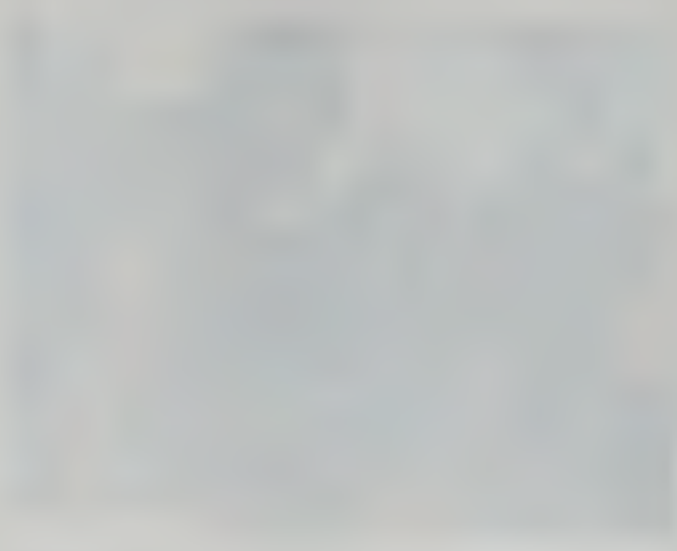
ALWAYS USE TROLLEYS TO SHIFT / TRANSFER HEAVY OBJECTS



USE CORRECT TECHNIQUES WHILE TRANSEFERING / LIFTING PATIENTS ON BED

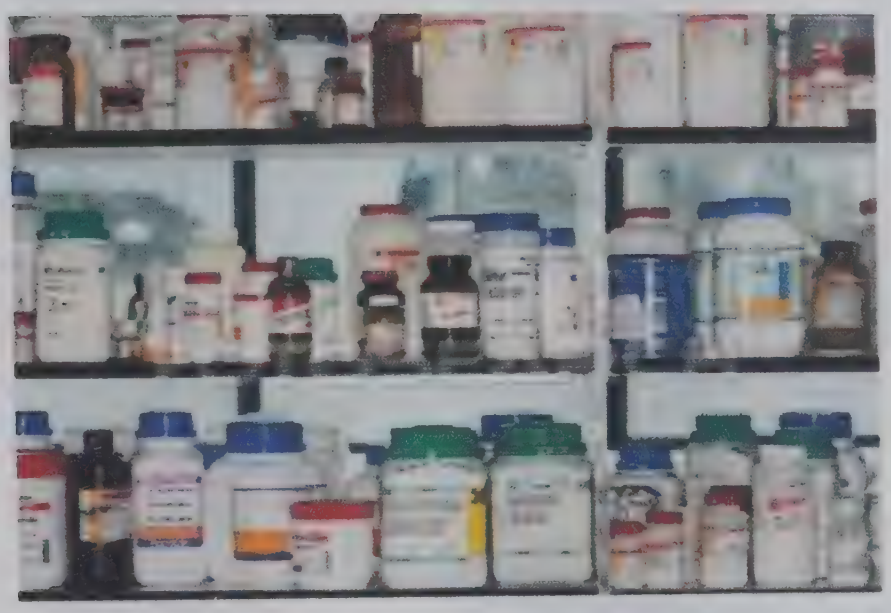
USE ASSISTIVE DEVICES FOR HELPING PATIENTS TO TRANSFER SHIFTING / WALKING

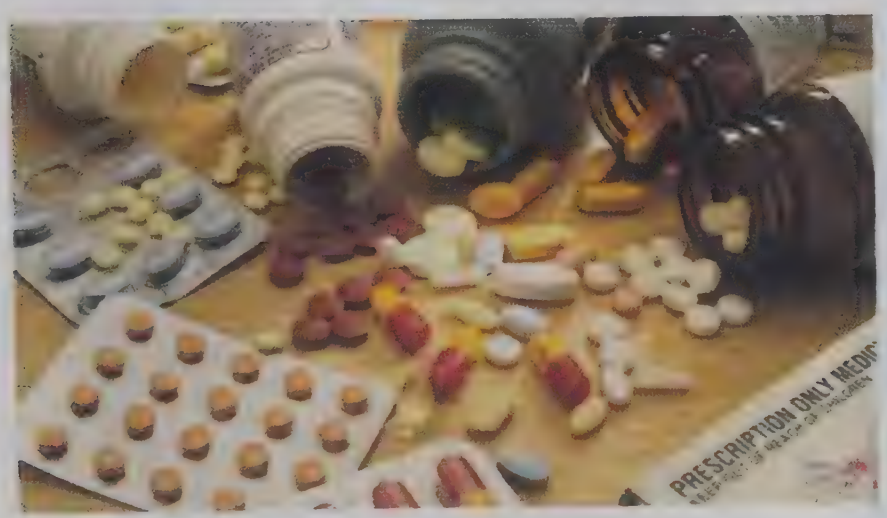
USE ASSISTIVE DEVICES FOR PROPER SHIFTING OF PATIENTS



CALL FOR ASSISTANCE WHEN EVER REQURED

CHEMICAL HAZARDS





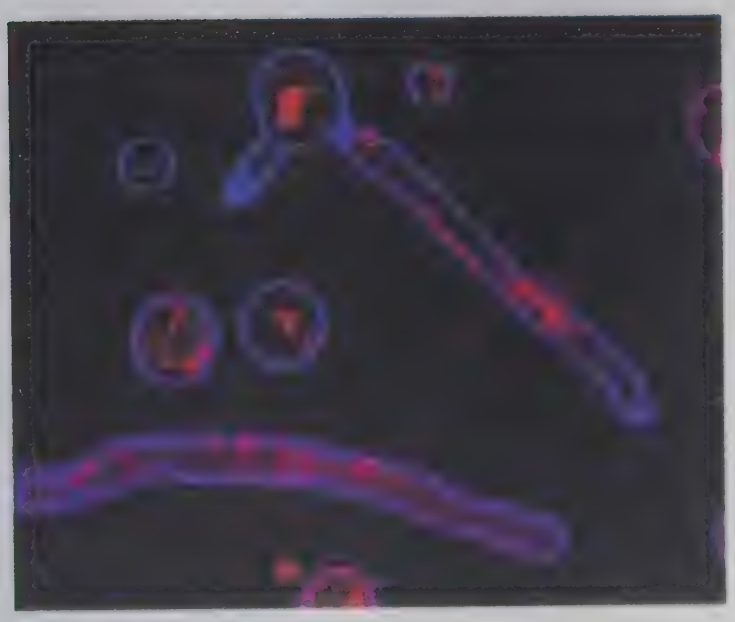
DRUGS & CHEMICALS ROUTINELY USED IN HOSPITALS POSE OCCUPATIONAL HAZARD

BIOLOGICAL HAZARDS

Hepatitis B Virus

HIV

BACTERIAS

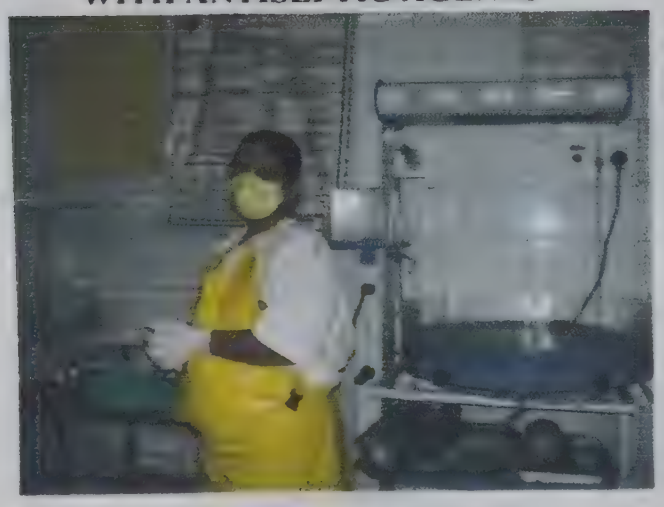


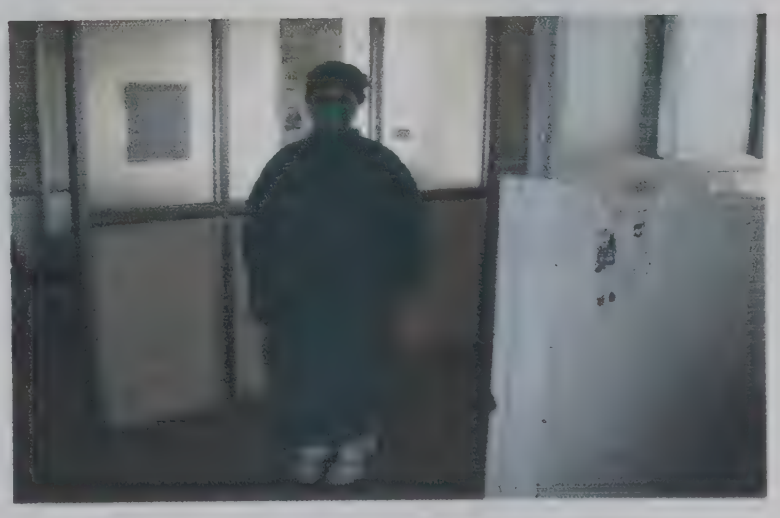
FUNGUS

NEEDLE STICK INJURIES

REGULAR HAND WASHING WITH ANTISEPTIC AGENTS

WEAR GLOVES





NURSE WEARING GOWN, MASK AND HEAD GEAR

PROTECT YOUR EYES WITH GOGGLES

COLOUR CODING FOR WASTE COLLECTION

Sharps
Needles. Broken glass. Suture needles Lancets. Blades Scalpels
Disinfected and mutilated plastic
Blood bags. IV sets Tubings. Urine bags Syringes Catheters Gloves
Infectious waste
Microbiological and biotechnological waste. Blood-soaked bandages. Soiled dressings. Cotton swabs
Body parts and anatomical tissues
Human tissues Organs Body parts Animal waste Placenta
General
Non-infected plastic Cardboard Packaging materia Paper

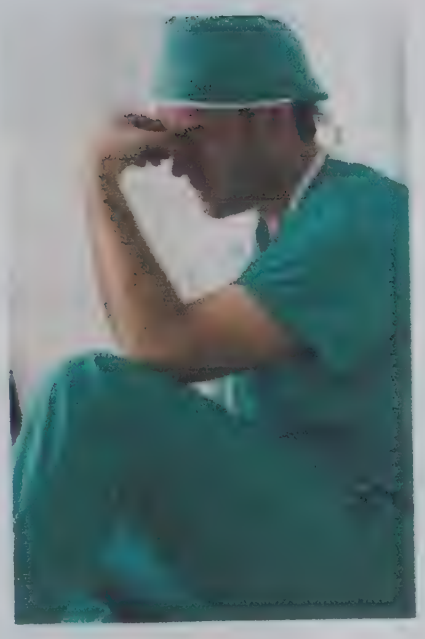
PROPER DISPOSAL OF WASTES

SAFE DISPOSAL AND TRANSPORTATION OF HAZARDOUS WASTES

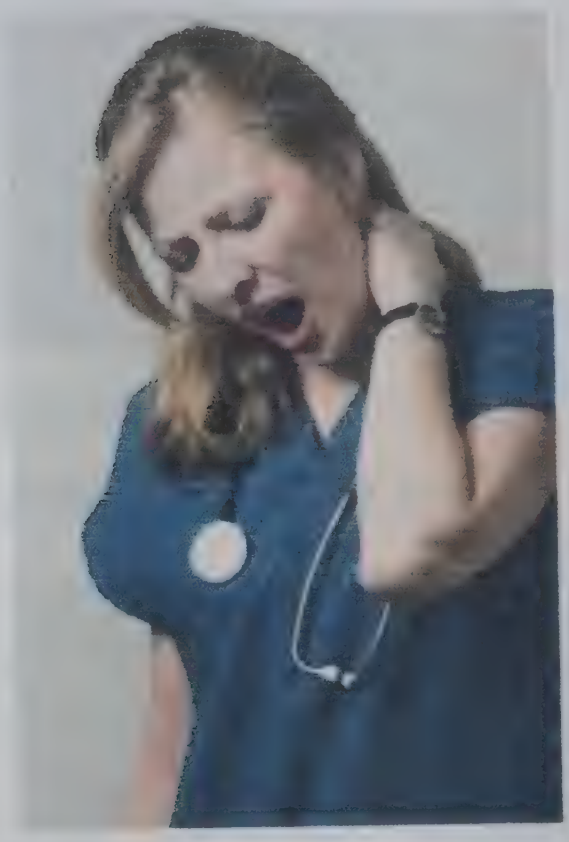
DESTROY THE NEEDLE AND SYRINGE AFTER USE BY USING

NEEDLE DESTROYER

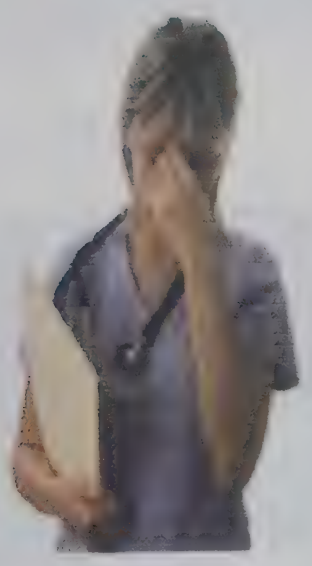
PSYCHOSOCIAL HAZARDS



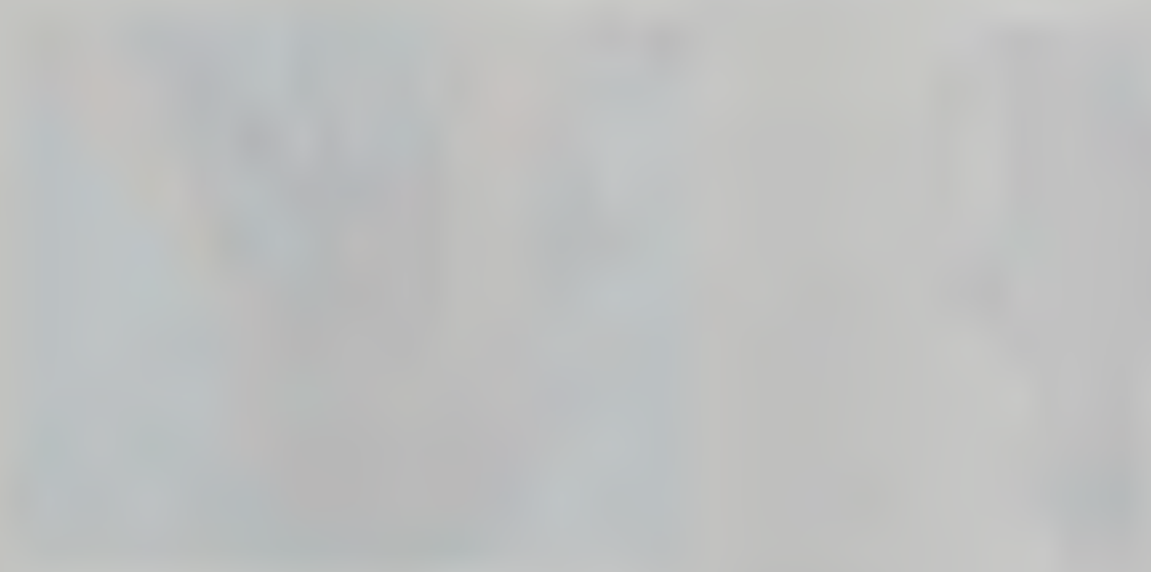
FATIGUE



LACK OF SLEEP CAUSE DISINTEREST AT WORK PLACE



STRESS AT WORK PLACE



WORK PLACE VIOLENCE

METHODS TO RELEIVE PSYCHOSOCIAL PROBLEMS

YOGA & MEDITATION

RELAXATION

TEAM WORK

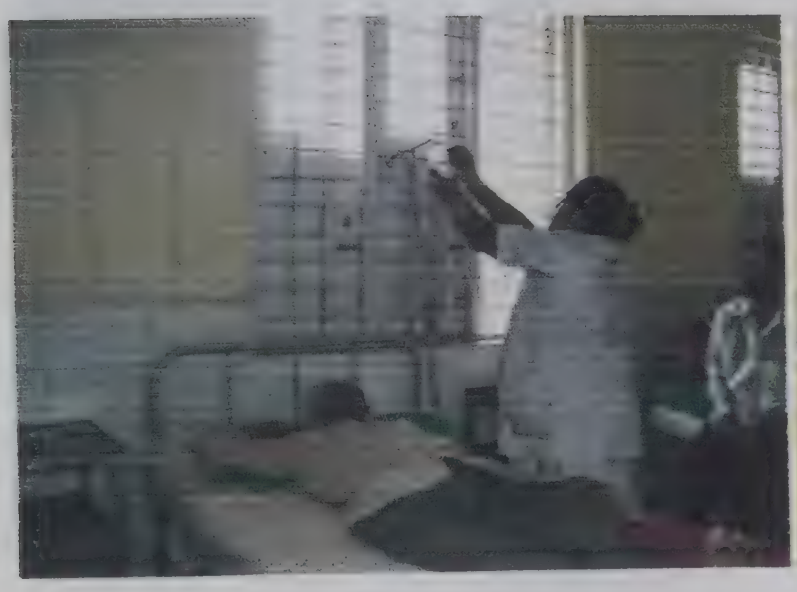
PROBLEM SOLVING

HARMONIOUS FAMILY

Vegetable Fats and Oils, Sweets, and Salt
EAT SPARINGLY
Low-Fat or Non-Fat, Milk, Yogurt, Fresh Cheese, and fortified Alternative Group
2 - 3 Servings
EAT MODERATELY
Legume, Nut, Seed, and Meat Alternative Group
2 - 3 Servings
EAT MODERATELY
Vegetable Group
3 - 5 Servings
EAT GENEROUSLY
Fruit Group
2 - 4 Servings
EAT GENEROUSLY
Whole Grain Bread, Cereal, Pasta, and Rice Group
6 - 11 Servings
EAT LIBERALLY

A BALANCED DIET IS IMPORTANT FOR PSYCHOLOGICAL WELL BEING

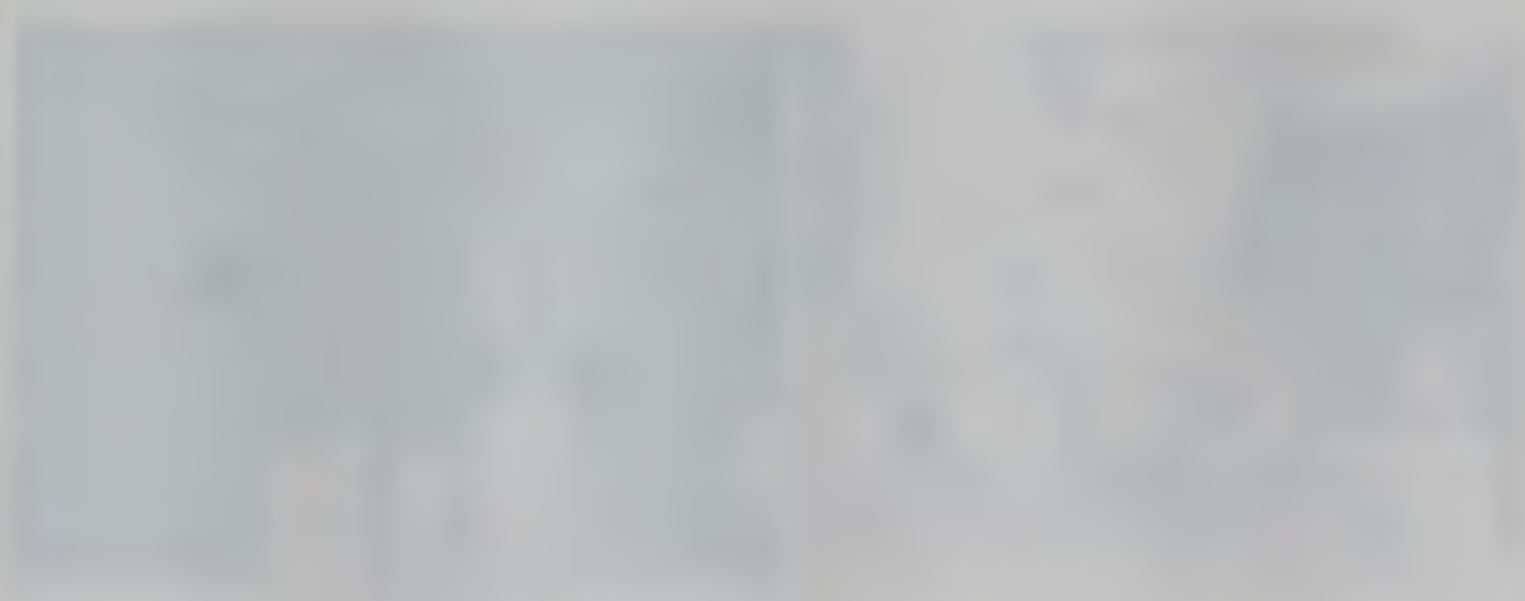
LEGAL SAFEGUARD



CHECK FOR MEDICATION ERRORS / FOLLOW FIVE RIGHTS DURING DRUG ADMINISTRATION

RECORDS ARE LEGAL DOCUMENTS – THEY PREVENT DUPLICATION OF WORK

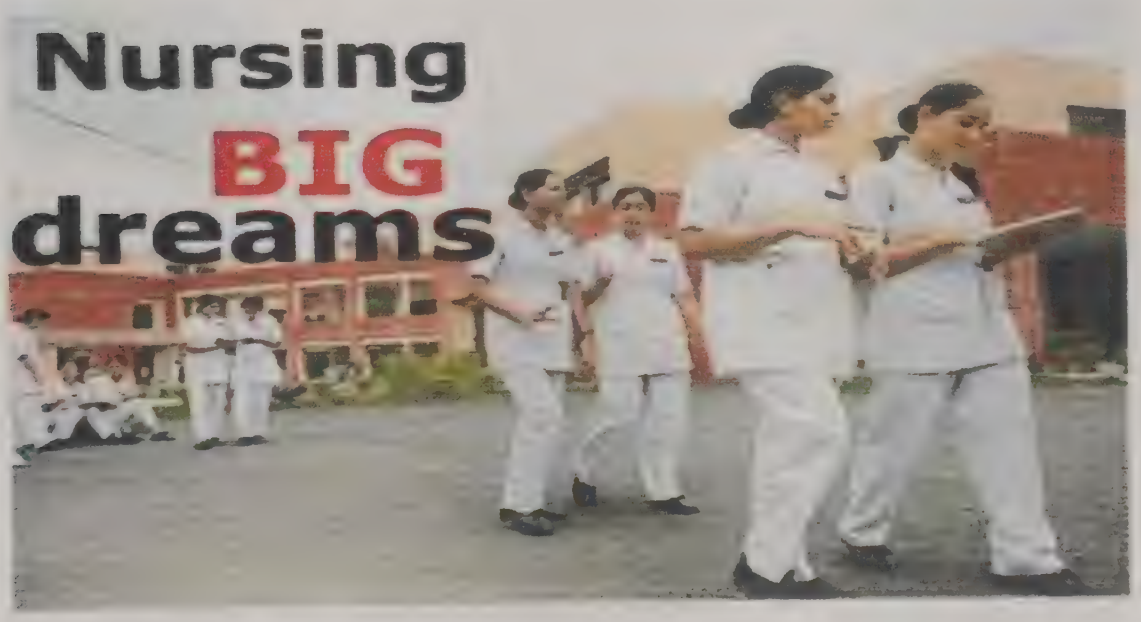
ALL PATIENT INFORMATIONS ARE KEPT CONFIDENTIAL REVEALING PERSONAL DETAILS OF PATIENTS TO OTHERS IS ILLEGAL



THERAPEUTIC COMMUNICATION

HOLISTIC APPROCH

EVERY PATIENT HAS THE RIGHT TO BE INFORMED AND TAKE CONSENT FOR ANY PROCEDURE



REGISTRATION IN THE STATE COUNCIL IS MANDATORY FOR PRACTICING NURSING AND IT SAFEGUARDS NURSES AND IMPROVES NURSING STANDARD

GLIMPSES OF DATA COLLECTION AND TEACHING PROGRAMME

DURING THE STUDY

MAP SHOWING
BENGALURU URBAN DISTRICT

0,000 4,000 8,000 Meters

centimeter equals 2.747943 kilometers

INDEX

- BangaloreUBoundary
- BengaluruBBMP
- BengaluruBMP
- BengaluruSC
- BengaluruPHC
- BengaluruCHC